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MARKET AND LAND USE STUDY

Relating to the Planning of

DOWNTOWN WATERFRONT FANEUIL HALL RENEWAL PLAN

Boston, Massachusetts

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DATE

June 1, 1962

SUBMITTED TO

Mr. Daniel J. Ahern
Waterfront Redevelopment Division
Greater Boston Chamber of Commerce
125 High Street
Boston, Massachusetts

PREPARED BY

Brown, Harris, Stevens, Inc.
Consulting Real Estate Economists & Appraisers
14 East 47th Street
New York 17, New York

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June 1, 1962

Mr. Daniel J. Ahern, Director
Downtown Waterfront Faneuil Hall Renewal Plan
Quincy Market
Boston, Massachusetts

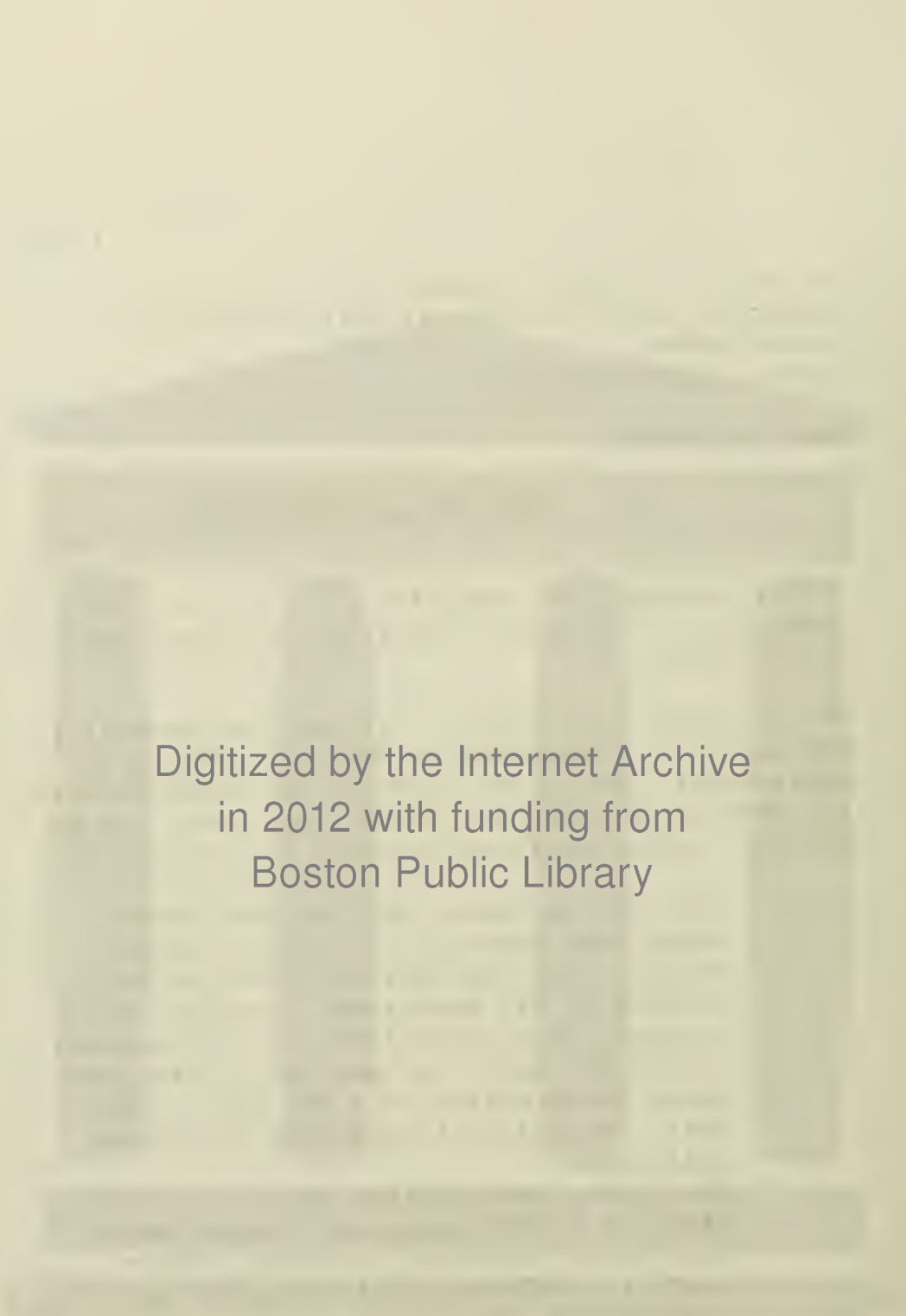
Dear Mr. Ahern:

Re: Land Use & Market Study

It is our pleasure to submit to you in fulfillment of our contract the completed Land Use and Market Study for the Downtown Waterfront - Faneuil Hall Renewal Area.

The section of the report entitled "Marketability and Land Use" commencing on Page 52 contains in considerable detail our findings and recommendations for each of the various logical land uses. Let us, however, summarize these findings for you briefly.

1. The site is unique and has many advantages over existing or proposed urban renewal sites and private sites as well because of its waterfront location; its proximity and convenience to all downtown functions; and, its large size which enables the creation of a new environment while retaining historic and worthwhile buildings.
2. The Boston Metropolitan Area is in the midst of a heartening and dynamic economic surge generated principally by a shift to technologically advanced and high growth industries. Rising personal incomes also contribute substantial demand support.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3. A wide variety of housing types is recommended for the waterfront. Rents should range from $25.-$30. per room monthly to $65. per room monthly. Accommodations will consist of low density garden type apartments; rehabilitated walk-up structures; tall, fireproof, elevator apartments; and, one-family attached dwellings directly on the water. We believe the area can readily absorb a minimum of 400 units a year over a five year period, despite competition from other new construction.
4. The area is ideal for a high-quality hotel with upwards of 350 rooms and an associated "boatel" of 100 or so rooms. The hotel should have a large amount of public space to take advantage of the convention potential.
5. We feel that 3,200,000 square feet of rentable office space will be absorbed over the following 10 years and that the waterfront will attract about 10% of this total. The office market is now extremely active and many large space users are planning to move to new, air conditioned, more utilitarian space. This movement is still in the early stages. It is felt that the waterfront can share in this despite the fact that some 2,700,000 square feet, exclusive of the Prudential Insurance Company's space, will become available over the next three or four years.
6. Marine oriented uses should command a ready market on the waterfront. For example, a boating and equipment sales center could serve the entire New England regional market. There is an apparent need for a Marina to serve Boston residents and those from the close-in suburbs, in-town marinas are not new or unusual. New York and Chicago, for illustration, have many.
7. Some of the mercantile wharf buildings may be suitable for rehabilitation to moderate rent apartments. This conversion process

has been going on for several years directly on the waterfront and marketability is obviously good. Sites further inland, however, promise somewhat less feasible results unless the land and buildings could be re-sold on a "write-down" basis for less than their acquisition cost.

We do not question the ultimate success of the project. The ingredients are undoubtedly present to assure this result. The fullest potential, however, and the highest relative success will be achieved if harbor pollution is concurrently substantially reduced or eliminated; if property tax assessments on new construction are within the capacity of private sponsors; if the Union freight line railroad trackage could be eliminated or its used sharply curtailed; if the existing grade is raised sufficiently to eliminate flooding danger; and, if waterfront decking (platform) costs prove to be within the preliminary engineering cost estimates.

We are deeply appreciative of the opportunity of serving the Chamber of Commerce in this study. Thank you for your interest in our counseling services.

Very truly yours,

JRW/lfv

JOHN ROBERT WHITE, M.A.I., C.R.E.
SENIOR VICE PRESIDENT

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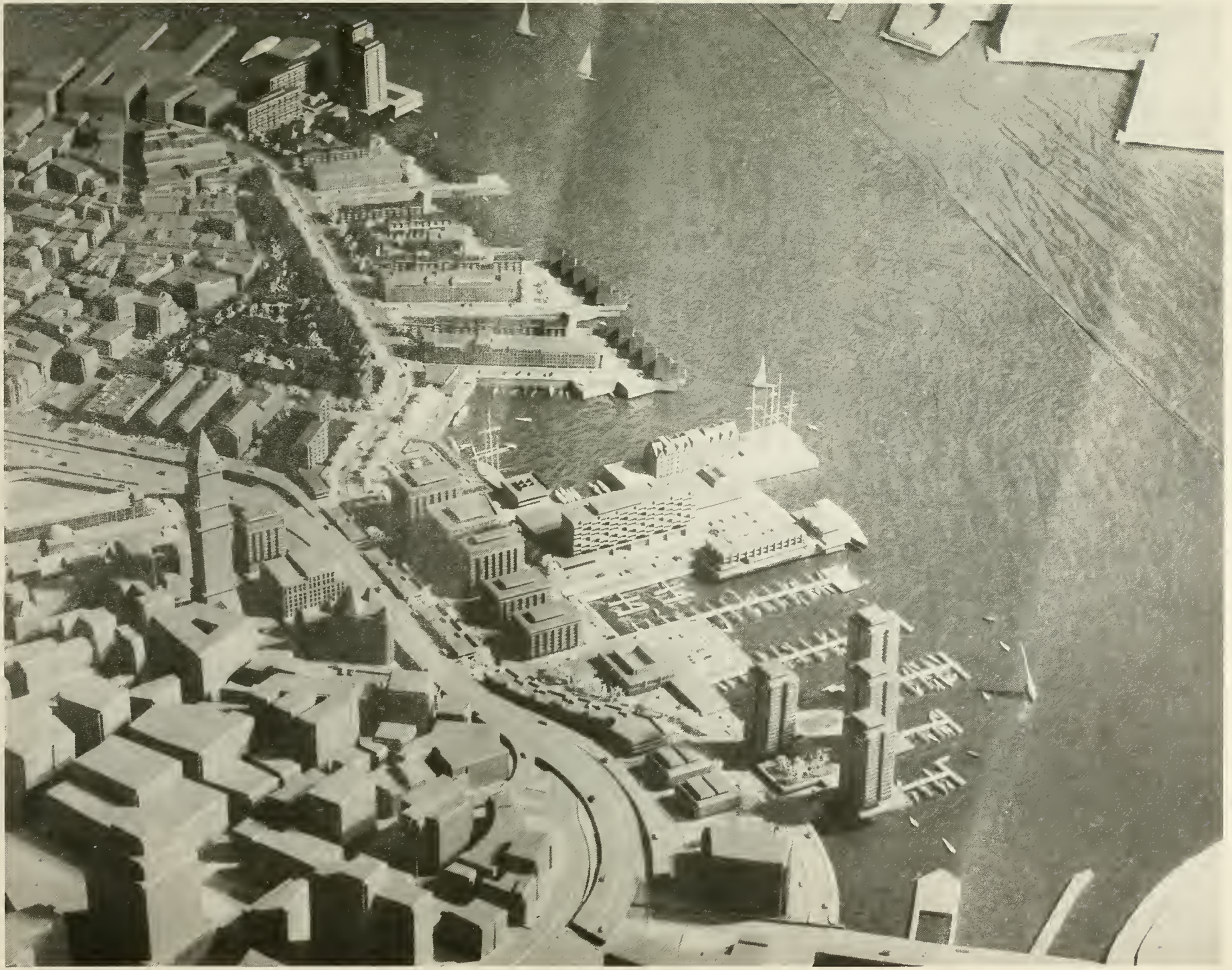


PREFACE

PURPOSE OF THE STUDY

As part of an over-all scheme for the rejuvenation of the City of Boston, the Boston Chamber of Commerce is now preparing a renewal plan for the Downtown Waterfront Area. The purpose of this study, made on the Chamber's behalf, is to investigate the competitive quality of the various real estate markets and determine the most suitable future land uses for the area, and to advise on the marketability and absorptive capacity of the uses in the Project area.

The specific uses to which such an important part of the City should be put can be determined only after a comprehensive market analysis of the City of Boston and of the surrounding district. Our analysis has been based on a study of statistical sources of information, field study, and personal interviews with municipal officials, businessmen, bankers and other informed members of the community. In arriving at its conclusions, full consideration has been given to the extent and type of competitive construction to be anticipated in the metropolitan area over the next five years and to underlying population and economic conditions affecting real estate demand.

LOCATION AND AREA OF INFLUENCE

Boston is the largest city in Massachusetts and the largest and most important in New England. It is located on the northeast coast of the United States, 218 miles northeast of New York City. The metropolitan area has the largest port, and is the major distributional, educational, cultural and financial center in this part of the country. It serves also as the transportation hub of New England. Its influence extends south as far as Connecticut, west as far as the New York State line and north to the Canadian border. In education and technology, it is one of the acknowledged national leaders through the influence of Harvard, M.I.T. and other universities. Its national as well as regional reputation in the quality of its medical services is unexcelled. Its heritage as the seat of American liberty contributes to its regional reputation.

POPULATION, INCOME & EMPLOYMENT

POPULATION GROWTH

National & Regional Trends

The population of the United States increased 17.0% from 1950 to 1960 adding some 28 million. From April 1, 1960 to April 1, 1962, national population has grown 3.26%, in keeping with a forecasted 16% growth from 1960-1970.

New England states had a lower growth rate than the nation. The 1960 population of 10,509,367 was 1,194,914 more than the 1950 total. This represents a 13.7% increase. Excluding Connecticut, which received large immigration from New York City, the increase was 9.1%. The New England population growth was about 24,000 less than the excess of births over deaths, indicating a small net migratory loss. The far West and Florida showed substantial migratory population gains.

Within the New England states growth was mixed. Connecticut added 528,000 people of which 234,000 were net migrants. Massachusetts' population increased from 4,690,514 in 1950 to 5,148,578 in 1960. This was 93,000 less than the natural increase. Rhode Island showed a slight over-all population gain, but a high proportional migratory population loss of 4.6%. In general, it is to be expected that New England population growth will proceed at a lower pace than that of the nation, and that migratory population losses will continue and may increase. New England population is expected to grow one million during this decade or 9% in contrast to an approximate 16% forecast for the nation.

Massachusetts Population

Massachusetts population increased about 458,000 from 1950 to 1960 or 5.6%. Of this gain, 102,000 was in Central Cities over 50,000; 377,000 was in Urban Fringes; 136,000 was lost by Urban Territory Outside of Urbanized Fringes and 115,000 were added in Rural Areas. In proportional terms, the Urban Fringes grew the fastest at 22%. Central City population increased 6%, but Central Cities of over 100,000 all had declining populations, losing 16.4% of their 1950 population. All Standard Metroplitan Statistical Areas had a migratory population loss of 123,281 or 2.6% of their 1950 population. The state ranked 46th of the then 48 states in Standard Metropolitan Area migratory population growth. On the other hand, it was 9th highest in non-metroplitan migratory gain, adding 30,281 net migrants or 0.6%. Apparently, people in Massachusetts

as compared with the nation, find the non-Metropolitan Areas more attractive than its Metropolitan Areas.

Low growth for the state, 5%-7%, should be anticipated for the next decade. A continuance of Central City population decline is also in prospect but at a slower rate as urban renewal improves cities and the non-Metropolitan Areas become more urbanized.

Boston Standard Metropolitan Statistical Area Population

A Standard Metropolitan Statistical Area (S.M.S.A.) is an attempt to define population groupings in and around a city that form an integrated social and economic system. Population increases of such New England units has been sluggish when compared to S.M.S.A.'s in other sections. Table 1 shows lagging population growth in the Boston S.M.S.A. since 1910. The 1960 S.M.S.A. population of 2,410,572 was up 7.4% from 1950 as compared to 25.3% for all S.M.S.A.'s. It is a common experience in many long-settled areas in the United States as well. The degree is more severe in the Boston S.M.S.A., however, than in other large comparable Metropolitan Areas (Table 2). When compared to a national growth rate of 17.0%, it is obvious that substantial net migration from the Metropolitan Area occurred as in the adjoining Providence S.M.S.A.

The Boston Standard Metropolitan Statistical Area (also referred to as the Metropolitan Area) has the most dense population of any eastern or midwestern Metropolitan Area (Table 3). Only Cleveland, with 2,611 persons per square mile, comes close to the Boston figure of 2,672. We are thus concerned with a highly urbanized area, characterized by intensive land use, the high ratio of building coverage and the concurrent problems of vehicular traffic congestion and crowding.

Given the expressed desire of Americans for freedom of movement, mobility and spacious living, it is unrealistic to assume substantial population growth in one of the most crowded S.M.S.A.'s of the entire nation. Substantial population growth in the S.M.S.A. can only come via territorial expansion of the Boston area of dominance.

Boston and the Movement to the Suburbs

Within the Boston S.M.S.A. all growth was in the suburban areas where population increased about 280,000. Boston population declined over 100,000 to 697,000. Population decline in Boston was among the sharpest in the nation (Table 4). This was not confined to Boston alone, but

also extended to older urban communities closest to Boston, such as Cambridge, Chelsea and Brookline. Outer Boston communities showed modest gains, while peripheral towns, beyond Route 128, showed soaring populations (Table 5). There are strong reasons for this outward movement, reasons which are common to most of the Metropolitan Areas of the country. An increasing number of people wish to live in a suburban setting free from the noise, congestion and racial antagonisms often found in the older central cities. Increasingly, they can afford to do so. The most important single factor seems to be the desire to have spacious and attractive surroundings in which to rear children. To achieve an attractive home environment, many people are willing to commute an hour or more by car or public transit to their places of work in the city. New buildings have sprung up in the suburbs, particularly along circumferential Route 128. This has reinforced the growth of the suburbs by reducing the need to commute. Boston suburbs, as those surrounding New York City, become more and more internally self-supporting with the passage of time.

Any development of downtown Boston for residential purposes is therefore impeded by a distinct local and national trend. Success in achieving this aim must depend on providing housing which will suit the needs of the sort of people and size of family that continue to find central city living attractive. The City has this considerable attraction because of its convenience to work centers, diversified shopping facilities and fine cultural institutions and activities. These will tend to consist of older couples, young married couples, and single persons. Attractiveness of the residential design, good supporting facilities for shopping and education will also induce a number of younger families with children, to relocate in the central city. We do not foresee, however, any widespread residential recentralization; suburban living still has great appeal and generally is far less expensive.

As of February, 1961, the Greater Boston Economic Study Committee projected a 1970 Boston population of 630,000. This would be a 67,000 population loss or 6,700 per annum.

The Boston Redevelopment Agency forecasts a 35,000 increase to 732,000 by 1970. This wide range reflects the uncertainty in predicting population changes in a swiftly changing urban and suburban environment. Our own judgment is in the 675,000 range. At any rate, prospective local population movements within the S.M.S.A. have little or no effect on the demand for office or hotel accommodations and only affect the apartment market if losses are in groups prefering such quarters.

POPULATION CHARACTERISTICS

Racial Composition

As of April 1, 1960, there were 87,092 non-whites in the Boston S.M.S.A. This was a very low 3.4%. The proportion has increased slowly since 1940 when it was 1.7%. The 1960 proportion was among the lowest of major S.M.S.A.'s in the nation. The growth of the non-white sector is one of the slowest. (Table 6).

The City of Boston has 68,493 non-whites which constitute 9.8% of its population. As in the case of the S.M.S.A., this proportion is extremely low for a city of its size. In absolute terms, Boston lost 129,985 whites during the decade and added 22,768 non-white persons. The rate of increase has been strong since 1950 but not as strong as in most other regional capitals.

For the S.M.S.A. outside the City of Boston, non-white population was about 1%. This proportion can be expected to increase as non-whites in the central city seek suburban quarters in line with their increasing economic status.

It is doubtful that the non-white population of Boston will approach the 20%-30% ratio in such centers as Philadelphia, Cleveland, St.Louis, Chicago or Pittsburgh. The great wave of non-white population movement to the north seems to have reached a peak and will probably stabilize or recede in future years. The number of rural non-whites in the south has dropped very sharply since 1950. This is the basic source of non-white migration. Net migration from the south appears to be declining as a result. Growth by natural increase in Boston will probably not be too rapid since non-whites form less than 10% of the 1960 population. In addition, a trend of non-whites from central city locations is in the making. About 38,000 non-whites migrated from Manhattan from 1950 to 1960. The City of Pittsburgh added only 3,879 net non-white migrants from 1950 to 1960. The decade of the 1960's will witness a migration of prosperous non-whites to the suburban areas, partially offsetting new non-white migration. Boston non-white population should tend to increase, but more slowly than in the past.

The proportion of non-white persons living in a community has particular significance when incomes and buying

power are considered. Non-white families generally have lower incomes than white families and are therefore less a qualitative demand force in the community for both retail and for housing. The extent of this unfortunate variation is enormous. The 1961 median income of all male income recipients in the nation was $4,432 for whites as compared to $2,292 for non-whites. This variation is probably not as sharp in Boston, however.

Absorbing any large group of migrants puts a strain on community facilities and resources, especially when the incoming group is faced with basic changes in their accustomed ways of living. This strain has been relatively small for Boston and should not grow significantly. This allows the city and the new migrants to make a successful mutual adjustment more swiftly.

Age Distribution

Table 7 gives a historical perspective on Massachusetts' age grouping. The 0-14 age group has shown explosive growth since 1950. Its proportion of 28.8% is at a 70-year high. The 14-24 age group, the basic source of new family formation, has felt the effects of depression and war. Its proportion of state population has sunk to 12.7%, - a seventy year low. Thus no upturn in family formation should be expected. The 25-44 age group is also at a proportional 70-year low. This probably reflects the low birth rate of the 1930's plus large scale net migration due to the state's employment problem in the 1950's. The 45-64 age group shows slow and irregular growth to an all-time high of 11.2%. The most rapid and consistent growth has been in the over 65 age group whose proportion of the population has more than doubled in the last 40 years.

The 1960 age grouping of the City of Boston, the remainder of the Boston urbanized area, and the state are given in Table 8. It is readily apparent that Boston has a much smaller proportion of its population under 14, and a greater proportion of those from 15-24. Boston has a higher proportion of people in the older age groups but more especially over 65. Since 1950, radical changes took place. In 1950, Boston could scarcely be distinguished from the state or the remainder of the urbanized area on the basis of age grouping. It had slightly less in the under 14 age group but also had a lower proportion over 45. The

greatest shift for the decade was in the 25-44 age group that declined from 30.0% of the population in 1950 to 24.8% in 1960. It is evident that this child rearing group abandoned the city in large numbers, taking many minor children with them. The proportion of minor children rose, but in a weak fashion. As a result, the city is now rather sharply distinguished from its surrounding areas and the State.

Adjusting 1950 age groups to an expected 1960 size gives a rough measure of net in and outflow of population from Boston (Table 8-A). The city has strongest attraction for the 20-24 age group - the only one to experience a net inflow. Its next best showing was for the 15-19 group and the 25-29 group respectively, where modest losses took place. Heavy net outflow in the 30-45 age group and in the 10-14 bracket, accounted for most of the 1950-1960 population loss. Net migration drops off sharply for those over 45 years of age.

This age configuration and movement suggests strong demand for rental apartment accommodations and a lesser market for ownership and town house units. In any case, the city should continue to receive a net inflow of young persons and sustain a growing proportion of its population in the over 65 age group, from natural increases. This indicates small central city apartments, the majority moderately priced since young married couples and retired persons rarely have the desire or income to pay the high rent associated with new construction. There also exists a market for higher priced apartments for those high income families who want to enjoy the conveniences and cultural advantages of the city. The extent of this market will be subsequently discussed.

Household Size and Formation

Household size in the United States showed a decline from 3.67 in 1940 to 3.28 in 1953. Thereafter an irregular but upward trend raised average size to 3.36 in 1962. This is a reflection of the post-war baby boom. This national trend is composed of rapidly expanding household size in suburban areas and declining household sizes in central cities. This latter effect was strongly felt in Boston where average household size declined from 3.67 persons in 1950 to a very low 2.93 persons in 1960.

Table 9 shows the changing character of household size and number in Boston. The addition of 27,501 single person households during the decade to a 1960 total 53,805

is the outstanding development. With the exception of two person households, all other size households showed declines. The number of four person families declined 24% or 9,675 households to lead in absolute and proportional decline. The number of three and five person households declined by about 1/6th each. One and two person households now are 51% of all Boston households as compared to only 38% in 1950. The large net conversion of housing units is an adjustment of supply to changing demand.

The shift to single person households was strongest among rental households. Among rental households even the number of two person households declined. The rental four person household declined 1/3rd - a measure of outmovement of families. Average rental household size plunged from 2.9 persons in 1950 to 2.3 in 1960. Average size of owner households also declined, but not as swiftly, falling from 3.6 persons to 3.2. Net household formation was 6,584 for the decade as compared to a decline of over 100,000 in population. This apparent paradox is not confined to Boston. Manhattan had basically the same experience in recent years.

Growth of households was in the owner sector which increased by 7,025. Surprisingly, one and two person owner households provided the margin, adding 6,630 households. The number of rental households remained stable.

It is obvious that declining household size is one of the basic supports of the Boston city housing market. How long can the process continue? Quite far, apparently. New Bedford, Holyoke, and Albany, New York, equal the 2.9 Boston figure. Brookline, Cambridge, and Schenectady, New York, persons per household stand at 2.8. Hartford City has declined to 2.86. New York City averages 2.88 with Manhattan at 2.36 persons per household. There is ample room for past trends to continue. A decline of average household size to 2.8, combined with the projected 1970 Boston population of 630,000, would mean no significant change in the total number of households. It seems probable to us that average household size will drop to about 2.6-2.7 persons. On this basis, households would number from 233,000 to 242,000, or a household increase ranging from 9,000 to 18,000. An annual addition of 900-1,800 new households is forecast.

Even if household size were to stabilize at about 2.85 persons (which is most unlikely), the effect on the housing market would be small. This would reduce households

about 300 per annum. In the context of a 1960 supply of 224,687 households, such a shift would be minor. Replacement and upgrading backed by rising real income provide the real key to housing market demand in Boston.

INCOME

Income Levels and Distribution

The New England per capita and household income has traditionally been one of the highest of the geographical areas of the nation. In recent decades, the tendency has been for all regional variations to narrow. In keeping with this trend, New England's lead over the nation has declined but still persists. Per capita income currently is 11% over the national average.

Massachusetts' personal income has typically exceeded that of the New England states and continues to do so. As of 1961, Massachusetts' per capita income was $2,268., compared to the $1,967. national average. Household income for Massachusetts averaged $7,633.; the national average was $5,979. Although the past decade has been trying for the state, it still ranks 10th in per capita income and 9th in household income. Qualitative demand is quite good as a result.

The Boston S.M.S.A. and the Greater Boston area enjoy even better incomes. Per capita income for 1961 is reported at $2,434. and household income at $8,195. Of the 300 metropolitan county areas established by Sales Management, Boston is rated 10th. Of the 100 largest S.M.S.A's, Boston ranks 26th on the basis of Federal income tax returns. On both bases, the Boston area ranks well.

The City itself has high per capita income of $2,164., but it is below the Massachusetts' or S.M.S.A's average. This is typically the case for central cities but usually the disparity is much larger. Due in part to smaller household size, income per household at $6,723. is $910 below the state average. Boston City income compares well to that of other large eastern central cities (Table 10).

The nation, New England, Massachusetts and Boston have all experienced a rapid growth of real income from 1949 to 1959. For the nation as a whole, real personal per

capita income increased 70% for the decade. The City of Boston did as well or better. Median income for families and unrelated individuals was $2,643. in 1949 and $5,537. in 1959. Adjusting for inflation to a 1949 base indicates an increase of $2,257. 1949 dollars, or 85%. Inflating 1949 dollars to a 1959 base yields a median increase of $2,313. 1959 dollars, or an increase of 67%. On either basis, the increase has been impressive. This gives evidence that Boston households have money at their disposal to purchase improved housing services. Though rents have risen steadily and sharply since 1946, they have not outpaced income growth. The median Boston rental household paid 16.9% of its income for gross rent in 1960. In 1950, it paid 18.5%.

Concurrent with a rapidly rising median income, distribution has shifted sharply from the under $4,000. level to the over $7,000. group (Table 10-A). In 1950, families under $4,000. constituted 65% of the total and those over $7,000. were 8%. By 1960, the under $4,000. group had fallen to 27% and the over $7,000. group swelled to 35%. An annual addition of 4,300 families to the over $7,000. income group strengthens the demand for new housing.

In addition to families, there is a large and growing number of unrelated individuals, that form many of the one and two persons households. The income of such households tends to be quite small, with an average of only $1,943. The group over $7,000. is only 4.4% on a statewide basis, nonetheless, this group, which numbers over 60,500 in Boston, adds to the over $7,000. households formed each year. The total number of Boston households entering the over $7,000. bracket each year probably exceeds 4,600.

As a result, the ability to pay for residential accommodations exists. It is this income that supports the Boston housing boom.

EMPLOYMENT

New England Trends

The New England states have been losing employment opportunities to other regions, particularly in the textile field. From 1950, when non-agricultural employment amounted to 3,306,600, New England experienced an em-

ployment gain of only 11.8%. This is somewhat below the 13.7% population gain. Connecticut employment gains paced the New England area with a 19% gain. Rhode Island employment actually declined by 0.7%.

Massachusetts' employment experience was quite sound. Employment rose 6.8% during the decade as compared to a 5.6% population increase. Contrary to a declining national trend, labor force participation increased in Massachusetts from 53.25% in 1950 to 53.46% in 1960. Unemployment dropped 24,000 and the rate of unemployment in the Civilian Labor Force declined from 5.7% in 1950 to 4.2% in 1960.

New England states have for many years had a higher proportion of their work force in manufacturing than in any other category. In recent years, this proportion has been declining - from 44% in 1950 to 41% in 1960. Massachusetts is more advanced in this adjustment process than the area average. The 1960 proportion of manufacturing employment is 35.5%, down from 37.6% in 1950. Within the manufacturing segment, the most significant development was the loss of over 64,000 textile jobs as the state shifted out of traditional low growth industries. Rapidly growing industries, such as electrical machinery, added 38,000 jobs, fabricated metals 16,000, and transportation equipment 9,000.

In the non-manufacturing sector, the most significant change was the addition of 19,000 jobs in Finance, Insurance and Real Estate, 41,000 in Educational Services and 19,000 jobs in Hospitals. The percentage increases were 24%, 56% and 44%. The strong rises in these categories portray the state's rise as an office, educational and health service center of increasing national importance. The state economy must be rated as dynamic and progressive, though some pockets of slow growth remain.

Greater Boston Metropolitan Area Employment

Table 11 shows a comparison of 1947 Greater Boston metropolitan area employment to that of 1960. The salient characteristic is the rapidly growing total which increased 95,000 to a 1960 total of 835,500 jobs. The overall gain was almost 13% compared to an estimated 9.6% population growth during the same period. Population growth in the 14-64 working age group from 1950-

1960 was far below that of the under 14 group or over 65 group. The result is an excellent current employment pattern in which demand is pressing upon supply. Most of the improvement has been a rather recent development. Employment was more of a problem in the first half of the decade.

All major categories showed gains. Those categories of employment containing special skills and services, related to central city functions of direction and control, showed striking increases. These are the categories of Finance, Insurance and Real Estate; Business and Professional Services; Public Utilities, Communications and Transportation. This latter category added 5,500 jobs though the State total dropped 13,300 from 1950 to 1960. These three categories, which lend basic support to the office market, accounted for over half of the 105,000 job increases. The relatively slow growing categories of the trades and manufacturing accounted for most of the remaining job growth. The net result is a clear shift to higher, specialized skills and service functions for the S.M.S.A. which reinforces its role as the primary control center of New England.

Boston Employment

Boston is a major employment center which contained about 380,000 jobs in 1959. This is about 45-50% of all metropolitan area jobs. In contrast Boston population was about 25% of the Greater Boston Metropolitan Area.

Table 12 shows the trend of jobs located in the City of Boston. The overall decline of 6.4% or 25,000 jobs was far less rapid than the loss of population during the same period.

The table reveals the flight of industry to suburban areas in search of space to build technologically advanced production facilities. The old multi-storied mill building is increasingly unable to compete with a modern one story structure which requires greatly increased land area. Heavy losses in the trades basically reflects the movement of convenience goods merchandising to the suburbs though some specialized shopping goods selling also was relocated. Downtown dominance in these comparison goods still exists, however.

Paralleling trends in the Greater Boston Metropolitan Area, Boston itself enjoyed strong and significant gains

of employment in Finance, Services and Public Utilities. Thus while manufacturing and the trades lost almost 40,000 jobs, the skilled labor categories added 17,200 new positions. About 25,000-30,000 of the 145,000 jobs in the skilled management-services categories are now held by persons living outside Boston. They are one of the possible sources of residential recentralization.

There is much room for past trends to continue in operations. The loss of manufacturing jobs should be anticipated plus a decreasing rate of loss in the trades. Further growth in area management and services functions should also continue. The outline of Boston itself as the nerve center of the state and region is clearly drawn. The growing specialization of Boston in unique central city function marks the city of the future.

ENVIRONMENTAL STUDY

PLAN OF BOSTON
WATERFRONT AREA
NORTH STATION
HAYMARKET SQ
FULTON
COMMERCIAL
MERCANTILE ST
ATLANTIC
CENTRAL WHARF
INDIA WHARF
LONG WHARF
ROWES WHF
LEWIS WHF
CONSTITUTION WHF
BATTERY WHF
LINCOLN WHF
UNION WHF
SARGENT'S WHF
HOOSAC PIER No 1
U.S. PIER
U.S. PIERHEAD LINE
RIVER
INNER HARBOR
BOSTON
CHANNEL
CHARLESTOWN BRIDGE
WARREN BRIDGE
COMMERCIAL
NORTH END PLGD
HANOVER ST
SUMNER
CALLAHAN
CAUSEWAY
LOVEJOY PL
FRANKLIN
PURCHASE
CONGRESS
SCOLLAY SQ
NO MARKET SQ MARKET
MERCHANT'S ROW
CLINTON
STATE
WASHINGTON
CORNHILL
BRATTLE
COURT
CENTRAL
MILK
BROAD
WEST
DEVONSHIRE
OLIVER
MARCH
HIGH
PEARL
SUDBURY
PORTLAND
BLACKSTONE
NORTH
UNION
ENDICOTT
THACHER
WASHINGTON ST NO
HAVERHILL
CANAL
MARKET ST
TRAVERSE
CHARDON
HANOVER
SALEM
BATTERY
UNITY
REVERE MALL
TILESTON
NO BENNET
NORTH
CHARTER
NECKMAN ST
GR WHITE POOL
DRY DOCK
DRY DOCK
UNITED

CITY

The City of Boston originated in 1630 at the north end of the Shawmut peninsular where it jutted into the confluence of the Charles, Mystic, Chelsea and Neponset rivers. The peninsula ended in a cluster of small hills and the settlement began on the eastern slopes.

The town center was first located around the Old State House in State Street, which was at that time the site of the market place, and in the Faneuil Hall area, then known as Dock Square.

In 1730, the main commercial waterfront was a shallow bay which stretched from Fleet Street to Battery March and which came inland as far as Broad Street. State Street, then known as King Street, had been extended into the harbor 20 years earlier as Long Wharf. In the first hundred years of its existence the town spread from the North End district and Waterfront area in a south-westerly direction down Washington Street which was the main route from Boston to the mainland. By 1850 the City had spread as far as the Back Bay, and in the next 50 years this area was filled and developed as a predominantly residential district.

By 1870 the Waterfront had been extended outwards into the harbor to the present Atlantic Avenue position. The downtown office district grew to prominence in the area between Court Street and Franklin Street and by 1930 was fully developed in its present pattern.

Although the Waterfront has declined since that time and in spite of the growth of an important secondary office center in the Back Bay district, the main business and administrative center of the City has moved little from its original position and is still located within close proximity to the Project area.

The Waterfront reached its peak of prosperity between 1870 and 1900 and has gradually declined since that time. In 1954 the John F. Fitzgerald Expressway was constructed, cutting through downtown Boston from north to south between the Waterfront area and the remainder of the downtown district.

The effect of this expressway construction, particularly at the solid ingress and egress ramps, was to create an actual as well as psychological barrier between the office and financial district and the waterfront. This tended to isolate the waterfront from downtown and further accelerated its decline.

PROJECT AREA

The part of the waterfront which is the subject of this report is an area of approximately 100 acres including about 25 acres on the inland side of the Fitzgerald Expressway. The area extends in a north to south direction from the U. S. Coast Guard Station to the Northern Avenue bridge and includes all of the original Boston water frontage and historic wharves. The northern boundary adjoins the tight knit North End residential and commercial community. The southwest boundary runs close to the Boston downtown office center.

The area is predominantly commercial in character. Although a number of office buildings are located there, most of the firms with premises in the area are warehousemen and wholesalers dealing with fish, fruit, meat and provisions. There are also a number of small engineering firms and others doing business with shipping.

An interesting type of use is found on some of the wharves. A few of the granite and brick wharf buildings, formerly or now used for storage warehousing and other purposes, have been converted to picturesque, partially finished but, nevertheless, charming apartments. Most have merely painted inner surfaces of the exposed brick walls and painted exposed floor beams while modern kitchens and baths have been installed. Rents are considered reasonable and run between $125. and $200. a month per unit. The fact that so many households want to enjoy the atmosphere and convenience of the waterfront is a clue to what incipient demand exists for a revitalized waterfront which retains some of its old atmosphere.

The waterfront is served by one main road which runs close to the waterfront from one end of the Project area to the other. This is Atlantic Avenue and the northern continuation of the Avenue which is called Commercial Street. At the present time, it provides a route for road and rail transport serving the commercial firms located in the Waterfront area.

In addition to Atlantic Avenue, the area is served by another, mainly commercial service road which is located beneath the Fitzgerald elevated expressway between High Street and North Street. Several intersecting feeder roads, notably Hanover Street, North Street, Commercial Street, State Street, India Street, Broad Street and High Street, link the Waterfront with the rest of Downtown Boston.

A fact of some significance in the re-use plan is the existence of a single track at grade level running between North and South Stations and serving as a freight line link. It also serves the wholesale markets in the Project area but these uses will be relocated. Thus, the sole purpose of the track after the wholesale market relocation will be the transfer of freight between the New Haven, Boston and Maine,and Boston and Albany. If this track cannot be removed, its presence must be carefully weighed in terms of land use, marketability and re-use land value as it applies to residential and commercial use.

The Project area is joined to South Boston by the Northern Avenue Bridge, and to East Boston where Logan Airport is located by the Callahan and Sumner Tunnels which emerge within the Project area near the junction of North Street and the Fitzgerald Expressway. Ramps leading from the area to the Highway are located near North Street, State Street, and the Northern Avenue Bridge.

LOCATIONAL INFLUENCES

There are several outstanding features about the proposed project area site. First, it is immediately adjacent on the southwest to the edge of the prime office center. This has influenced our land use thinking in many ways. It means that a link-up with the existing office district of office uses in the Project area is feasible and logical. It also means that the benefits of a revitalized waterfront could be enjoyed by the tens of thousands of office workers, thus providing a demand nucleus for restaurants, commercial recreation, public and cultural uses along the Waterfront.

Second, the site commands sweeping views of Boston Harbor and Logan Airport. It is felt that these views should be capitalized, not only for the general public

but for hotel patrons, office workers, apartment dwellers and city home owners. In a sense, the location commands a monopolistic advantage over any other urban renewal or institutional site (as the Prudential location) which can and will provide a competitive edge over any other concurrent new construction, as the Boston area presses forward in its revitalization program. This has influenced our conclusions on the appropriate allocation to the Project area of the total Boston area absorptive capacity of its various real estate markets.

Third, the site is contiguous on the north to the colorful, ethnically homogeneous North End. The tenacity with which these families have remained in this section in the face of a declining central city population lends credence to the conviction that moderate rental housing of a similar or complementary type would be both suitable and successful. In the changing form and substance of the large central city, there is undoubtedly a place for in-town housing, especially where there is abundant evidence of a desire to remain.

Fourth, the Project area is contiguous on the west to the Government Center project. This will feature an impressive array of governmentally occupied office structures as well as some privately sponsored office buildings. The high quality of people and activity generated by Government Center will eliminate any flank weakness that would have existed within the old Scollay Square area. It will also bring added support to the waterfront for apartments, hotel accommodations, restaurants and recreation.

Fifth, the easy accessibility of the site by express highway also permits easy escape for weekend trips, vacations and visits. This is a factor too frequently overlooked in assessing the relative quality of central city locations.

Sixth, there is a cultural and historical heritage in the Waterfront area that is a source of pride to the general public. Faneuil Hall, Paul Revere's birthplace, the old wharf buildings, Quincy Market, are illustrations of historical heritages that help to stabilize an area and create meaningful associations with the past for the public.

PROJECT BOUNDARIES

An excellent boundary line on the north is Battery Wharf. Immediately above it is Constitution Wharf, actively used by the U. S. Coast Guard and slated to continue as a Government facility. On the northwest is the North End residential district which has retained its ethnic identity and homogeneity for fifty years or more; this area ultimately may become a rehabilitation urban renewal project. North Street, which runs between Commercial Street and the Fitzgerald Expressway, is a logical street boundary.

At the waist of the Project area, on the west side, the boundaries cross the Expressway to encompass a historical section which includes the market buildings and other historic sites in the Union-Hanover Street section; this line also provides essential contiguity with the Government Center Project on the west flank.

The South boundary is logically established at the Northern Avenue bridge, at which point the historic wharves terminate and the Fort Point Channel begins.

Originally, it was planned to run the boundary behind the Customs House and thence down India Street to the Expressway. Thereafter, it was changed to the south side of State Street to the Expressway. We must express a moderate degree of concern over the contiguous fringe area to the south, from the Expressway to Battery March Street. Many of the structures in this section are physically deteriorated, functionally obsolete or both. The strengthening of this section would provide a far stronger link with the Waterfront from the financial district. A glance at a street map will show that access to the Waterfront from the financial center comes from a series of skewed streets; namely, Central, Milk, Franklin and High streets. Pedestrians thus would pass through this failing area to reach the Waterfront facilities. It is hoped that private enterprise will have the requisite interest to rehabilitate and modernize the sound structures and demolish the balance for improvement with new structures. This will assist immeasurably in providing an effective linkage between the Waterfront and the principal business section.

THE BOSTON HOUSING MARKET

SUPPLY FACTORS

The 1960 Existing Supply

As of April 1, 1960 the City of Boston had 238,802 housing units (Table 13). The great majority, 163,396, were rental units - only 61,291 were owner occupied. The ratio of rental to owner occupied units is nearly three to one. Vacant sound or deteriorating, year round housing units numbered 9,288 of which 8,708 were for rent. The resultant rental vacancy rate was 5.1%. Vacancies by rent range show a strong adversion for low rent housing and good occupancy in the upper ranges. Of the major New England cities, Boston has the highest rental vacancies in the under $40.00 range and the lowest over $40.00 Greatest pressure is on the $80.00-$99.00 range with 3.6% vacancy.

Vacancy by type of building is about even with the exception of the 5-9 unit structure which has a 30% higher vacancy rate than overall. There is evidently no strong preference for either smaller or larger structures.

In terms of quality, 183,872 occupied housing units were judged to be sound, or a rather low 81.8%. Most of the housing in Boston City, as might be expected as one of the oldest cities in the United States, was almost fully built up before 1919. About 50% of all housing units were built before 1919. Only about 24,000 units date from years between 1940 and 1960, equivalent to 10% of the total inventory. This suggests that the replacement needs for housing are rather large and the city may be ripe for extensive new construction to fulfill this need.

Multi-family housing units dominate the rental housing supply. Many Boston households are accustomed to living in large scale apartment developments. Fully one in 7 rental households dwell in buildings containing 20 units or more. The comparable figure for nearby Providence was only 1 in 30. Boston households do not have to be educated in apartment living.

The median gross monthly rental was $78.00 - the median proportion of household income devoted to rent was a rather low 16.9%. No great pressure is exerted on incomes.

Changes in the City Housing Inventory 1950-1960

Table 13 shows the housing units by type and tenure for 1950 and 1960 for the City of Boston and for its S.M.S.A. The number of owner occupied units in the City increased by 7,025 between 1950 and 1960. During the same period the number of rental units fell by 441. There were, however, 9,288 units on the market for sale or rent in 1960 against 1,922 in 1950. The effects of this change in vacancies should not be overated. Rent controls were in force in 1950. This freezes the market and understates vacancies. Therefore, the increase of vacancies is more apparent than real. Dropping of rent controls has allowed unsuitable units to become vacant, as under occupied units were offered on the open market.

The total number of dwelling units in the City in 1960, at 238,802 represent a 7.4% increase over 1950. During the same period, however, the population in Boston Proper decreased by 13%. The key to this apparent paradox is in declining household size which will probably continue in operation for the next several years.

The housing inventory in the peripheral areas expanded quite markedly. Subtraction of the City figures in Table 13 from the S.M.S.A. figures gives the inventory changes in the peripheral areas. It shows that between 1950 and 1960 the owner occupied suburban inventory increased from 233,595 in 1950 to 341,454 in 1960, equivalent to 107,859 or 46%. The rise in rental units was only 9,869 or 5%. Here again, however, as in the City, the number of units for sale or rent increased greatly from 6,938 to 19,391. Again the vacancy rise must be treated with care.

This picture is typical of the metroplitan areas throughout the country. Differences exist only in the intensity with which population out-migration to the suburbs occurred and the rate of natural increase. It is obvious that the 1950 decade saw the outlying areas gain population at the expense of the central city. It is interesting to note, however, that both in the City and the suburbs the number of families (households) increased mainly because of the diminishing household size.

New Housing in the City

Table 14 shows the number of housing units in Boston City for which building permits were issued between 1952 and 1961. Construction of multi-unit buildings lagged far behind dwelling units in one and two unit buildings as recently as 1959. One and two unit dwellings have been constructed at a fairly regular rate of between 400 and 500 per year, while, except for a larger public development of 1,884 units in 1952, the yearly number of multi-unit dwellings varied between 20 and 180. In 1960 and 1961, however, permits for 1,060 and 1,183 units were issued, a considerable increase over previous years. The total number of units of all types over the ten years between 1952 and 1961 was 9,453 units, equivalent to a yearly average of 945.

New Housing in the Suburbs

Table 15 compares the 1952-1961 construction in the City with the construction in the surrounding districts and communities. It can be seen that multi-unit housing is mostly confined to the City and to the close-in districts. Beyond the inner districts the proportion of total units in the form of multi-units is never more than 30% and is usually a much smaller percentage. The outer suburbs beyond Route 128 are still largely free from this type of development; new construction continues mostly in the form of one and two family houses.

Additional Housing by Conversion & Alteration

The shortage of new rental accommodations in recent years has brought about the alteration and conversion into dwellings, of buildings previously used for other uses, or subdivision of larger units to meet the growing demand for smaller units. Such conversions and alterations equalled 40% of new construction for the decade adding 3,688 units in Boston alone. Substantial activity of this type also took place in Cambridge and Brookline - the near in suburbs. The housing supplied in Boston, including additions and conversions, was 13,139 from 1952-1961. This is approximately 1,300 additional new units per annum.

Table 16 gives the number and locations of multi-unit housing in the Boston area with private and public con-

struction separated and the total effective units added to the inventory. Though the number of public multi-units matched the number of private units in the City, construction of multi-units in other areas was predominately privately financed.

As we have mentioned earlier in the report, a large portion of the City's housing inventory consists of old row houses, divided to provide a number of dwelling units. Large sections of the City, such as Beacon Hill and Back Bay have now yielded to this form of housing. Although there are a number of single family houses still existing, these have gradually become fewer, as alteration and conversion continues. Most new construction now takes the form of multi-unit development, a trend which will no doubt continue to accelerate because of high land costs.

Vacancies

Vacancies in private multi-family housing units can be measured by data as F.H.A. insured rental housing. Figures are available on a statewide basis only but activity has been centered in the Boston area. Vacancies were and are very low in Massachusetts as seen below:

VACANCY RATES - F.H.A. RENTAL HOUSING

	1960	1961	1962
Massachusetts	1.0%	1.2%	2.4%
Rhode Island	6.5%	1.4%	0.7%
Connecticut	4.4%	5.4%	7.3%
Albany, N.Y.	2.6%	7.4%	5.4%
Buffalo, N.Y.	6.6%	5.2%	5.7%
Cleveland, Ohio	7.8%	5.4%	8.7%
United States	4.8%	5.4%	5.5%

Boston rental vacancies in these modern quarters are still far below the 5%-6% vacancy usually deemed necessary for adequate market operations. The slight rise in 1962 is negligible in the context of comparable cities. The rental housing market remains strong in the relevant rental ranges. New accommodations are renting as fast as they are completed. This situation appears to exist throughout the various price ranges of new construction. Inspection of modern apartment buildings disclosed that vacancies were negligible at the present.

Rentals

A sample of rent trends in ten major cities including Boston, Baltimore, Chicago, Atlanta, Cincinnati, Cleveland, Houston, Kansas City, Los Angeles and Detroit, shows a noticeable slackening of rent rises after 1956. Rents dropped in Detroit and show little change since 1956 in Houston and Kansas City. Cincinnati rent increases levelled after 1957 as they did in Cleveland and Chicago. Baltimore and Atlanta rent increases continued up through 1960. Los Angeles rent increases slowed after 1955. Only Boston has shown an uninterrupted rise in rentals extending from 1949 through 1962. The rate of increase has not slackened in 13 years.

On a regional context much the same is true. Boston rentals have advanced strongly since 1956 in all size housing units. The figures given below are from classified ads for the major New England cities. A two year base period and terminal period are established to level out random fluctuations. The base period was October, 1956 to October, 1958 and the terminal period was May, 1960 to May, 1962. Average rental increases by room are given below together with May, 1962 rent levels as shown by classified ads:

RENT INCREASES BY APARTMENT SIZE

	RENT INCREASE				MAY, 1962 - RENT LEVELS				
	3	4	5	6	2	3	4	5	6
Springfield	$ 2	$ 2	-$8	N.A.	$73	$68	$ 86	$ 80	$ 90
Hartford*	$ 7	$ 6	$ 3	N.A.	$72	$99	$118	$116	$106
Providence	$ 9	$ 9	$ 2	$ 2	-	$66	$ 66	$ 61	$ 80
Worcester	$15	$ 8	$ 7	$ 6	-	$77	$ 63	$ 56	$ 68
Boston	$22	$25	$26	$21	$82	$99	$106	$101	$118

* Includes some furnished apartments and furnished homes.

The above table shows three important characteristics:

(1) Rents are high in Boston in a New England context but not oppressive.

(2) Rents are rising significantly in all size apartments.

(3) Declining household size directs demand to small 3 and 4 room units but has not demoralized the market for larger 5 and 6 room units as it has in Springfield, Worcester and to a lesser extent, Providence.

All three factors show a sound rental market.

Most of the recently constructed rental housing to come onto the market in the City has been in the upper income category, with a smaller amount within the range of middle income families. New housing includes the luxury apartment building at 330 Beacon Street where rentals range from $200. to $950. a month for apartments having from one to three bedrooms; 101 Monmouth Street where apartments with one to three bedrooms will rent for between $150. and $375. per month; and, Charles River Park, as yet only partly complete, where rentals range from $125. to $292. for efficiency to three bedroom units. The first group of 460 units rented very quickly and according to the sponsors, renting is proceeding at almost the initial rate on the second group. As we mentioned earlier, the shortage of new construction has been a factor in bringing about the conversion of commercial buildings to residential use. This type of conversion has taken place in the wharf buildings off Atlantic Avenue where large apartments, fitted with new bathrooms but without partition walls, are renting at $150. to $200. per month. Apartments in the Back Bay and Beacon Hill areas rent for between $85. and $260. for one bedroom units; between $100. and $400. for two bedroom units; and, from $75. to $160. for one-room efficiencies.

CURRENT AND FUTURE APARTMENT CONSTRUCTION

Current construction in the City includes Charles River Park which will ultimately comprise of 2,400 units. Other projects planned for the near future include the middle to upper income building at 101 Monmouth Street with 80 housing units; and the Whitney Street project built under the Massachusetts Limited Dividend Law 121A for which the completion date is February, 1963. The project will comprise 276 one and two bedroom units renting in the $160. to $190. range.

Other housing units are proposed for Brookline (800), Brighton, Alston and Harvard (1,500). In the center of Boston the old Bellevue Hotel has now been sold for conversion into 130 one bedroom and efficiency apartments.

This list by no means is complete. It does show announced intentions to construct over 5,000 rental units in the Metropolitan Area within the next few years. When a tentative 2,000

waterfront units are added, this becomes an impressive and sobering total. The capacity of the metropolitan market to absorb these units will be further discussed in the section on "Marketability and Land Use".

DEMAND FOR HOUSING

The demand for housing in Boston is largely based on a combination of rising personal incomes and the need to replace many aging and substandard rental units.

As noted on Page 10, about 4,600 Boston households per annum are entering the over $7,000. income bracket. Rising incomes are firmly based on a strong and improving labor market. Many of these households will prefer to use added income to purchase more and better housing. The existing supply of 163,000 renter occupied units contains about 48,000 that are not sound or do not contain all plumbing facilities. This is almost 30% of all rental units. The need to upgrade and improve the quality of rental housing is patent - and it is now backed by the financial ability of Boston households to do so. Vacancy characteristics show that Boston households are not only able but willing to pay more rent for better housing, since vacancies fall as rentals rise. Most communities will support a certain amount of new accommodations, merely to replace deteriorating housing, and to provide for the normal desire of the householder to upgrade their accommodations as their incomes rise. This is a cyclical occurance, the timing for which appears propitious in the Boston area.

Demand for new apartments in the City is strongest for small and medium sized units. This is in line with the trend of shrinking family size, which is making itself felt mostly in the central districts and which will be an important consideration in estimating future housing needs. As we explained in the population section, the average household size in the City decreased from 3.67 to 2.93 persons between 1950 and 1960. The central city is becoming increasingly the home of small households, childless couples, both newly married and elderly, and single people, and it is from these people that most of the demand for new apartments will come. A further source will be a small but significant body of people who for various reasons wish to leave the suburban areas to return to the City. These are primarily older couples with grown-up families who are looking for smaller rental units in place

of their large, expensive to maintain, suburban homes. Others are people working in Downtown Boston who seek to avoid the long commutation time to their suburban homes. Still others are those for whom the attractions of the out-of-city environment do not fully compensate for the lack of the City's cultural and entertainment amenities.

While we do not see any likelihood of a large reversal of the outward trend towards the suburbs, we do anticipate some demand coming from suburban sources; demand which until comparatively recently has not had the opportunity of satisfaction because of the negligible in-town construction, scattered in various locations.

Another source of demand will come from persons displaced as a result of new residential development in the City. Displaced persons tend to be in the lower income groups and will be in the market for lower-middle income accommodations. This is, nevertheless, a demand force to be reckoned with. Displaced families exert demand pressure on low rent accommodations and tend to accelerate eventual upgrading of housing accommodations by households in all income levels. This lends buoyancy to the market in every rent range.

The strongest source of demand for new housing in a community results from new families which form as a result of in-migration, social changes and population growth. As we have stated earlier, the trend in Boston, as in any other city, is towards a decrease in population in the central areas at the same time as an increase in population in the outer areas. However, the loss in population in the central areas is now being counteracted by the reduction in the average size of each household. In spite of a loss of 104,247 persons between 1950 and 1960, the number of households was able to increase by 6,325. During this same general period, over 13,000 new or converted units were added to the Boston inventory.

For the coming decade we foresee a slight increase in the number of households as average size continues to decline. At worst a loss of a few hundred households a year is possible. This would be a minor factor in a market containing about ¼ million households.

Another demand force is the increase in new units designed to provide the equivalent of a 5%-6% vacancy;

only when vacancies approach this figure does the typical tenant have a full range of rental housing choice in all areas and at times convenient for him. This flexibility assures a sound equilibrium between supply and demand without endangering existing investments or unduly inhibiting new construction. We observe also that in periods of business prosperity, new or relatively new and modern housing has a better occupancy rate than aged or obsolete housing. This means that an average vacancy of this magnitude would indicate only a 3%-4% vacancy in modern rental accommodations in good neighborhoods.

COMMENTS ON THE HOUSING MARKET

Since 1959, rental housing market activity has become quite intense throughout the entire metropolitan area. The changing character of the populace, high private dwelling land costs, discouragement with commuting time and costs, and the obsolete character of existing rental housing have conspired to increase significantly the proportion of rental housing out of the total of housing starts.

We see no reason why this trend should not continue into the indefinite future. We see no reason to be unduly alarmed at the volume of existing and proposed rental housing construction. We feel that the renewal area has unique locational advantages which will enable it to compete very readily with new housing in the metropolitan district and claim a fair allocation of what will be built.

Because of the size and unique location of the subject premises, the market for apartment units and homes must be seen within a metropolitan rather than a Boston Proper context. The question to be resolved is this: How many households out of the 12,000 or so each year that buy or rent homes or apartments will be attracted to settle in the Waterfront area? The answer is in our section on "Marketability and Land Use".

THE BOSTON OFFICE MARKET

THE BOSTON OFFICE MARKET

SUPPLY CHARACTERISTICS

Metropolitan Area Office Inventory

Boston is the major office center in New England and one of the largest financial centers on the East Coast of the United States. Following a nationwide trend of the past ten years, Boston experienced a certain amount of office dispersal, into the surrounding districts, particularly into those districts close to the Circumferential Route 128. The office users that moved out were mostly insurance firms and those whose changing modes of business no longer anchored them to the central city. The surge of industrial construction along Route 128 also brought about the construction of laboratories and offices serving these industrial firms. Towns close to Route 128, such as Lexington, Bedford, Waltham and Quincy were the sites of laboratories and offices connected with electronics research and industry, while insurance firms located offices at Wakefield, Concord, Waltham and Norwood.

New office parks are planned for Dedham and Wellesley. Cambridge, which is relatively close to Downtown Boston, is the site of the Massachusetts Institute of Technology and is becoming the research center of the electronics industry. This trend will be further strengthened when the new office and research center, Technology Square, is completed. It will ultimately provide 750,000 square feet of space for such tenants as International Business Machines, in several buildings, to be built as demand warrants.

City Office Inventory

The majority of Boston's office users, however, remained in the city. For several reasons, including a lower economic growth rate, a shortage of land and the heavy real estate taxes, the amount of office space in Boston City in 1962 is little different from the 1930 supply. Currently, however, about 1,000,000 square feet of private space is under construction and plans are active for approximately 2,500,000 square feet more, of which 2,000,000 square feet is definite.

It has been estimated that Boston City has a total inventory of 23,000,000 square feet of office space. Almost all of it lies between the Waterfront and the inland side of the Prudential Center site in the Back Bay, and includes office space in retail, manufacturing and residential buildings, as well as in single purpose office buildings.

There are two major office districts. The largest is the downtown area surrounding Post Office Square where approximately 9,000,000 square feet are located, and where the major tenants are the government, banks, stockbrokers and lawyers. The second is the Back Bay office district around Copley Square where there are approximately 6,000,000 square feet, and where the insurance companies have tended to congregate.

We define the qualities of office space as follows:

Class "A"

Office space suitable for the best tenants, well designed, with first class equipment, including air conditioning, and situated in a good location.

Note: It is possible for an old building to qualify under this definition, though most Class "A" space is in modern buildings.

Class "B"

Office space suitable for good class tenants but let at a lower rental because of a less than modern appearance, or other relatively minor drawbacks. Class "B" space is good space occupied by sound tenants. It is often only distinguishable from Class "A" by its older appearance. It may be air conditioned.

Class "C"

Generally older, non-air-conditioned office space in a less than prime street, but nevertheless attracting sound tenants, at lower rentals than Class "B".

Most of Boston's office space dates from before 1930. At the moment, only a comparatively small proportion of the total inventory consists of good quality, competitive, rented space able to satisfy all or most of the requirements of an up-to-date office tenant. Out of the

23,000,000 square feet total, we estimate that there are 5,500,000 square feet in this category, not including those buildings built for and occupied by one owner. The 5,500,000 square feet are distributed through the city as follows:

	Class	Sq. Ft.	
Central Downtown			
Post Office Square	"A"	225,000	
Congress Street	"B"	1,146,539	
Federal Street, etc.	"C"	1,781,852	3,153,391
Downtown Fringes			
Pemberton Square	"A"	-	
Tremont Street	"B"	104,000	
Washington Street, etc.	"C"	899,000	1,003,000
Back Bay			
Boylston Street	"A"	196,000	
Stuart Street, etc.	"B"	211,100	
	"C"	980,254	1,387,354
	TOTAL:		5,543,745

There are only 421,000 square feet of modern office space, comprising 7.6% of the total of good, competitive space of 5,543,745 square feet. Somewhat more than half of this space is in the central downtown area. This total will, of course, be significantly increased with the completion of the structures now under construction.

Age & Type of Existing Office Space

The major financial district which centers on Post Office Square and which extends almost to Atlantic Avenue, was mostly developed between 1870 and 1910. The office buildings in this area are very substantial structures, usually stone faced with ornate cornices. They are mostly from four to ten stories in height and though some have had substantial modifications, including the installation of air conditioning and self service elevators, many do not lend themselves to very

successful modernization because of their floor arrangements. Streets are generally narrow in this area, which places a further restriction on the amount of natural light available to the lower floors and make vehicular traffic difficult.

The second most important office section, which is located in Back Bay, has buildings which date from about 1880 to 1920, but now includes a number of new office buildings erected since 1957. This district is more spacious than the Downtown district, with wider streets and a generally more attractive appearance. Parking is also in better supply and available at slightly lower rates. Access by motor vehicle is decidedly easier than to the downtown section from some suburban areas.

Rentals

Office rents are generally high in Boston. Some of it is undoubtedly attributable to the attempts of owners to pass the incidence of the high real estate taxes on to the tenants. There is still, nevertheless, insufficient good quality, modern space available to satisfy all those that require it. The result is that old buildings are being modernized and some commercial buildings are being converted into office space. This is particularly true of the Downtown office district, where apart from the owner-occupied Blue Cross Building on Federal Street, the only Class "A" addition to the Downtown office supply in recent years has been the Travelers Building at 125 High Street.

Class "A" space in the Travelers Building and the McGraw-Hill Building in Back Bay rents at between $6.10 and $6.35 per square foot.

Class "B" space, in the substantial buildings around Post Office Square and in Back Bay rents from $4.50 to $5.50 per square foot. Class "B" space in renovated buildings, such as the Sheraton Building near the Northern Avenue Bridge, rents at about $4.50 per square foot.

Class "C" space rents from $3.00 to $3.75 per square foot.

Below these rental levels is a large amount of poor quality space, usually in small buildings with poor natural light and no air conditioning.

Vacancies

Vacancies in good class office space are generally low. Complete statistics are not available but a survey of a number of good quality buildings, comprising Class "A", "B" and "C" space, gave a current vacancy rate of just over 4½%. Most of the space that is available to rent is in Class "C" buildings, and there are virtually no floors of 5,000 or more square feet available. Where sizeable areas are on the market, they are usually spread over several narrow floors. The financial district has very few vacancies; many companies are scattered in various buildings and on different floors in essentially inefficient layouts.

In a regional sense, office building vacancies are also low. In a sampling of 16,500,000 square feet of space in 78 buildings in the New England and Middle Atlantic states, only 2.5% was vacant in 1961, according to the Building Owners and Managers' Association. This was the lowest vacancy rate reported of all the regions in the country.

RECENT AND PLANNED OFFICE CONSTRUCTION

Recent

As stated earlier, the vast majority of the city's offices were built before 1930. It was not until 1957 that a limited amount of construction resumed. The major office buildings constructed since then have added approximately 350,000 square feet of rented space to the inventory in such structures as the White Fund, the I.B.M., the Travelers Insurance and the McGraw-Hill Buildings. All, except the Travelers Insurance Building, are located in Back Bay or nearby. Only the Travelers Building is in the downtown office district. New buildings built primarily for owner-occupation are the Blue Cross Building in the downtown district and the Liberty Mutual and Remington-Rand Building in Back Bay, amounting to about 375,000 square feet of space. The total office space built between 1957 and 1960, both rental and owner occupied amounts to approximately 725,000 square feet. This is equivalent to a yearly absorption rate of 181,000 square feet.

A further 660,000 square feet has been added through modernization or conversion from other uses, increasing the annual rate to about 346,000 square feet.

There are four major projects planned or under construction for the future which will dominate all other construction. These are the Government Center, the Prudential Center, and the British Office Building at 50 Pearl Street, and the addition to the New England Mutual Building.

Planned

The Government Center will house sections of the State, City and Federal Government. Not all of it will be in the form of office space. The State Government is expected to take 827,000 square feet of space, divided between a Mental Health Clinic; a Health, Education and Welfare Building, and an Employment Security Building. The new City Hall Building will be 500,000 square feet in size and will house the occupants of the present City Hall. The 900,000 square foot Federal Government Building will be mainly office space. In addition to this public space, there will be about 1,200,000 square feet of private office space. About 60,000 is needed to relocate lawyers from the Pemberton Square area which is being demolished for Government Center. Construction of the Government Center will begin in the near future. Demolition of old buildings in the area is now proceeding. The $30,000,000. British Office Building will be located just off the center of the Downtown financial district at 50 Pearl Street. It will be 33 stories high and will include 880,000 square feet of rental space.

Under Construction

The Prudential Center is located in Back Bay. It will include a 950,000 square foot office building, two-thirds of which will be available for private renting. The other third or about 315,000 square feet will be occupied by the Prudential Insurance Company. Our subsequent projections of demand do not include the space to be occupied by Prudential since they have removed themselves from the demand market by their commitment to the space.

Another significant construction venture, primarily for owner occupancy, is the addition to the New England Mutual Building on Boylston Street at a cost of over $7,500,000. This space does not enter our calculations since it is virtually completed.

DEMAND FOR OFFICE SPACE

Employment figures discussed in an early section of this report showed that Boston City's office employment increased greatly during the last 15 years, despite the fact that employment as a whole decreased. Consequently, demand for good office space has been strong. This is also the case nationally where the proportion of office workers out of the total labor force has risen significantly. Demand for new space can be expected from three main sources; from new firms moving into the area, from office users already established in the area who wish to take better quality accommodations, and from those in the area who wish to expand the size of their operations.

Demand emanating from outside the area is difficult to measure. There has been little indication to date that office users are moving into the City. The Route 128 industrial belt and the growth of the electronics industry in the Metropolitan Area has brought a certain number of office users to peripheral locations and as close to Downtown as nearby Cambridge, across the Charles River.

Based on our studies in other New England cities, we do not believe that in-migration of companies to central Boston will contribute any substantial demand. Hartford's Constitution Plaza has been unable to attract any newcomers despite an intense promotional and leasing campaign.

The shortage of new office accommodations has restricted both those who desire to move into better accommodations and those who wish to take larger quarters. The shortage has probably been partly responsible for the movement into the peripheral areas, and for the trend towards the Back Bay where more construction has been possible. Experience has shown that in the few cases where good quality space has been brought onto the market in Downtown Boston, for example the Travelers Building, or even where satisfactorily renovated space has become available, it has been taken quickly at good rents.

A study of the financial district, the main source of tenants for the Waterfront Area, has revealed that many banks, insurance companies and others are scattered and in poor space. Thus, desire for consolidation and efficient space use is the most important demand factor in assessing current market conditions.

Evidence of the strength of this demand is already abundantly evident in the British Office Building where a leading bank has agreed to take 200,000 square feet; where letters of intent have been received for 150,000 square feet; and, where advanced negotiations for an additional 200,000 square feet are in process. All of this has occurred while only foundation work on the building has commenced.

The renting climate has not been quite so strong in the Back Bay area, however, and space in the Copley Square district has rented more slowly. This is probably due to the fact that the Back Bay area is less of a commercial center than Downtown and, therefore, the number of prospective tenants are reduced to firms, such as insurance companies, that do not depend for their business on their close proximity to other businesses.

Some additional evidence of Metropolitan Area office demand exists in the excellent rate at which the first building of 135,000 square feet rented at Technology Square in Cambridge. Among the tenants in the already fully rented yet uncompleted structure are I.B.M., C.E.I.R. and the Institute for Naval Studies. If a subway stop is installed in the vicinity, the remainder of the proposed buildings will be more directly competitive with the financial and Back Bay sections.

Future demand for new Downtown space is expected to be good. However, the prospective construction of such large office developments as the Government Center, the British Office Building and the Prudential Center in Back Bay will have considerable impact on the market, particularly as they will probably be completed at about the same time.

Construction of Government Center will also have a large effect on the occupancy of other downtown buildings which are at present Government occupied. They will become vacant as the new buildings are completed. None of this space, estimated at about 500,000 square feet, is of Class "A" quality. It is mostly "B" and "C", but its availability for rent will help to soften the market.

All of these projects then are beginning to have their effects on the office rental market because of the tendency of developers to begin renting ahead of construction. The accumulative effect of all this new space on the chances of renting new office space on the Waterfront will be discussed later in the "Marketability & Land Use" section.

CONCLUSIONS

Direct evidence of the strength of demand exists in the present level of rents, which are relatively high even after an adjustment for high taxes. Vacancies are considerably lower in good quality space than in many comparable cities. The volume of conversion and modernization has been high. We are aware of a desire by many major space users to relocate and consolidate in modern, new space. Another factor influencing demand is the extent of the obsolescence in the existing inventory. Many companies will find that they can afford to pay more rent because of the greater space efficiency, convenience and comfort in new buildings.

There is also considerable evidence of an economic revival in the Boston area that will be ultimately felt in the expansion of existing financial, banking, insurance and professional companies. Internal expansion is primarily responsible for the continuance of a high level of occupancy, despite some office decentralization, principally by insurance companies, to the surrounding cities. We foresee an intensification of this expansion in the ensuing decade. With rent a tax deductible item, the time appears imminent for a surge of new office building construction in which the obvious advantages of functionally designed, air conditioned space may be realized.

From the supply viewpoint, the only serious impediment is the very critical uncertainty surrounding the real estate tax impost on new construction. This is discussed in detail in another section. It should suffice to point out that little speculative construction will be undertaken if an investor feels that taxes will be too high a proportion of gross rents. Land availability is relatively assured through the Government Center project, various private sites and the proposed subject sites. We also feel that the 50 Pearl Street building to be built by British interests will be the generator which will spark many new buildings of a similar type.

Projections of the volume of office construction and the allocation to the Waterfront area will be discussed in the "Marketability and Land Use" section.

THE BOSTON HOTEL-MOTEL MARKET

THE BOSTON HOTEL-MOTEL MARKET

HOTEL-MOTEL INVENTORY

In analyzing the economic practicality of further hotel construction in Boston, we have confined our examination to the part of the Metropolitan Area which lies within Route 128. We consider that this area constitutes the bulk of the Boston Hotel Market.

At the present time, it is estimated that there are 10,791 hotel rooms within the City limits and a further 3,654 outside the City but within Route 128. It is also estimated that 1,200 rooms have been lost in the past 30 years as a result of demolitions and conversions within the City.

Boston's transient accommodation includes both hotels of the traditional type and motels.

Hotels

According to the United States Census of Business, there were 64 hotels in the City in 1948. In 1958, this number had fallen to 61.

The hotels are mostly old fashioned; the latest ones were built as long ago as 1927. Of the twenty better type hotels, seven were built between 1920 and 1927, and nine between 1900 and 1920.

Those of satisfactory quality range in size from 50 transient rooms to 1,225 and are distributed around the City as follows:

Kenmore Square	Number of Rooms For Transient Guests Only	Total Rooms
Kenmore	400	400
Braemore	50	225
Somerset	300	525
Back Bay Fens		
Sherry-Biltmore	350	350
Hemenway	200	220
Bostonian	125	150
Copley Square		
Sheraton Plaza	450	450
Vendome	125	225
Lenox	225	250
Copley Square	200	200
Park Square		
Statler	1,225	1,300
Ritz-Carlton	200	275
South Downtown		
Avery	200	200
Touraine	250	300
Bradford	325	325
Beacon Hill		
Parker House	600	600
South Station		
Essex	400	400
North Station		
Manger	500	500
TOTALS:	6,125	6,895

These hotels may be broadly divided between the Back Bay with 12 and Downtown with 6. These two areas have 3,850 transient rooms and 2,275 transient rooms respectively.

Motels

Although the last hotel to be built in Boston was built in 1927, there have been a number of motels constructed, both within the City limits and further afield. The growth of this type of transient operation is illustrated in the United States Census of Business. In 1948, there were 32 tourist courts and motels in the Boston Metropolitan area. By 1954, the number had risen to 36. In 1958, there were 71. Since then the number has increased to at least 90. Many of these are too far away to compete with hotel accommodations in the City but 13 of them are well enough located to provide very considerable competition. These comprise an additional 1,411 rooms. Almost all of them date from 1959, and all are attractively designed, well planned establishments. Their details are as follows:

	Total Rooms
Close to Downtown Boston	
Midtown Motel, Huntingdon Avenue	161
Logan Airport Motel	101
Fenway Motor Hotel	94
Terrace Motel, Brighton	52
Treadway Motor House, Cambridge	72
Cambridge House	137
"1200" Beacon St., Brookline	172
Charter House, Newton	107
Outskirts of Boston	
Charter House Motel, Waltham	96
Hotel 128, Dedham	143
Framingham Inn, Dedham	50
Lexington Inn, Lexington	64
Battle Green Inn, Lexington	58
Dolphin Inn, Quincy	104
TOTAL	1,411

Those situated on the outskirts are mostly close to the industrial belt, Route 128, and therefore would be expected to obtain the majority of their business from tourists or personnel dealing with the many industrial firms there. They are, therefore, not expected to compete as strongly with Downtown Hotels as the other eight. The close-in motels, on the other hand, are considered directly competitive with the Downtown Hotels and with the transient facilities planned for the Waterfront.

The commercial traveler, with or without a car, is showing an increasing preference for the more modern accommodations, especially when they are located close to his business destination.

Five more motels, not so far mentioned, are located in or beside the coastal towns skirting Massachusetts Bay. Here again, though their competition is not expected to seriously harm the Downtown premises, it will have some effect. Details of these motels are as follows:

	Total Rooms
Coronet Motel, Danvers	30
Kings Grant Motor Inn, Danvers	40
Pilgrim Motel, Salem	54
Charter House Motel, Lynn	70
Deans Motel, Saugus	22
TOTAL	216

The motels listed total 1,627 rooms. Balanced against the loss of approximately 1,200 rooms which the City has experienced through demolitions; the net gain in hotel rooms is only 427. On the other hand, because the motel accommodation is so much more suitable for present day needs than traditionally designed hotels, the actual improvement to Boston's hotel supply has been somewhat greater.

FUTURE CONSTRUCTION

Approximately 2,130 more rooms will be added to Boston's hotel supply in the near future, comprising 1,400 hotel rooms and 730 motel rooms.

The hotel rooms will be provided in two new hotels, the 28 story Prudential Center Hotel America in Back Bay which will have 1000 rooms, and the new 22 story hotel planned for Park Square overlooking the Boston Gardens which will have 400 rooms. New motels planned for the future are six in number and will be located in Kenmore Square, Boston; Soldiers Field, Brighton; North Shore, Revere; Wakefield, and Cambridge (2). Construction has already begun on a new $2,500,000 Charter house hotel on Cambridge Parkway near M.I.T., and just a few minutes from Downtown Boston.

The nature of hotel business has changed in recent years and very few hotels of the traditional type are now being constructed. As mentioned earlier, the last hotel construction in Boston City took place in the late nineteen twenties. This pattern is a common one throughout the United States. The trend is now towards motel and motor hotel construction and the great increase in the number of motels in recent years throughout the United States is clearly illustrated by what has happened in Boston.

The principal reason for the change in hotel type is that a higher proportion of business now originates from motorists, both businessmen and tourists. The old hotels which are located in the centers of cities are not functionally able to cater adequately for the motorist, since he usually wants his car garaged on the premises. The traffic congestion in the center of our cities is also an increasingly important factor which tends to discourage the motorist-traveler from venturing into the city. We consider that easy access to the downtown hotel is more important to the typical motorist than garaging his car on the premises.

These changes have brought about the low rise motel, designed primarily for the motorist, and located outside the town centers yet near enough to the town centers for the traveler to do business there, or visit there. This trend is expected to continue, with one important modification. A new type of Downtown hotel is arising known as the motor hotel. It includes the best features of both types of premises and is located in as accessible a location as possible consistent with being Downtown. It includes a parking garage, and also provides those facilities which are in increasing demand in Downtown locations,- conference and meeting rooms for business and social gatherings. It also is a far more intensive utilization of the site. Although many motels do provide a limited amount of this accommodation, their out-of-center locations make them less suitable than the downtown establishments for larger conferences. They are also rarely large enough to provide guest rooms for all those attending a conference. Conference business is, therefore, served far more satisfactorily by the downtown establishments.

Separating the basic types of hotel, it seems probable that hotels and motor hotels will continue to stay

downtown, serving air and railroad travelers, businessmen and tourists interested in visiting the central city, and catering to larger meetings and business conventions which require a pool of hotel rooms.

Motels, located alongside the main traffic arteries and coastal roads on the city outskirts will serve the increasing number of motorists - businessmen and tourists - who either have no business within the central city or who find motels close enough by car to downtown for their purposes.

ROOM RATES

Hotel room rates in the better establishments range from $9 to $17 for a single room. Motel rates range from $9 to $12 with the exception of the new Logan Airport Motel which charges $14.50. These rates are not unduly high by New York, Chicago or San Francisco standards. They are sufficiently high in New England, however, to support a conclusion that the market will pay economic room rents for modern, new construction.

OCCUPANCY

Occupancy is high in Boston's hotels and generally above the national average, though in common with the national trend it fell off between 1960 and 1961. Boston's average yearly occupancy rates were 72%, falling to 70% in respect of these years, against the national averages of 65% and 63%. Only New York, Washington, Chicago and San Francisco had higher occupancy rates.

CONCLUSIONS

The main reason for Boston's relatively healthy hotel business is its position as the capital of New England and its natural function as New England's conference and convention center. It is unlikely that this position will be challenged by any other city in New England. With the increasing growth of industry in the Boston area, demand for hotel accommodations is expected to grow correspondingly.

Hotel construction has been decidedly cyclical. Activity was intense in the 1920's,and thereafter no hotels were constructed for twenty-five years in downtown sections.

At the present time, the entire country is in a downtown motor hotel boom. The public has demonstrated its willingness to pay a moderate room rate premium for new, modern accommodations with exceptional restaurant facilities and other good facilities. The commercial traveler in many instances will pay premium rates because his expenses are reimbursed or are tax deductible.

On the supply side, the older hotels, despite varying programs of modernization and replacement, are relatively obsolete and dilapidated. The better located hotels, surrounding Boston Commons and Back Bay have tended to remain in good competitive condition. We are convinced, however, that there will be a shift of patronage from the older hotels to the new motor hotels as they come on the market.

An interesting and significant supply development in the hotel market has been the increasing use of these facilities for permanent guests. It appears that the aging sector of the metropolitan populace, by desire or necessity, are residing in hotels. Many single persons do likewise. The result is that the Greater Boston Hotel Association says there are only about 5,000 hotel rooms available for conventions. For a regional center of its present and prospective importance, Boston is ill equipped to handle large conventions.

A spot study has been made of the Logan International, Fenway and 1200 Beacon Street motels. Occupancy in all instances was unusually high. Although exact figures could not be obtained, it is estimated that all three motels were over 80% occupied and that Logan was well over 90%. This strikes us as a definite indicator of the potential strength of the motor hotel market. It is also a far better indicator than the average occupancy figures which are misleading since they include obsolete and poorly located hotels. Demand should be measured against those existing hotels possessing relative competitive parity.

A factor of importance to the hotel industry will be the erection of a $12,000,000., 3 story municipal auditorium on the northwest corner of the 31 acre Prudential Center site. The building will seat 6,000 and have about 160,000 square feet of exhibit and other space. Completion is scheduled for 1965.

There is no question that demand for Boston hotel space has been adversely affected by inadequate convention facilities. Since Mechanics' Hall was demolished, there have been no facilities. It is anticipated that all hotels will benefit from the new auditorium even though the new Hotel America will be the primary recipient of business. Supply will undoubtedly respond to the stimulus and new downtown motor hotels will result.

In the section on "Marketability and Land Use," we will detail our projections on the absorptive capacity of the Boston hotel market and estimate a reasonable allocation to the Waterfront Area.

THE BOSTON MARINA MARKET

NATIONAL BOATING

In examining the Boston marina market with a view towards establishing the feasibility of building a waterfront marina, we have also investigated the prospects of building a sales center as a complementary operation.

According to estimates made by the boating industry, there is one boat for every 22 persons in the United States today. The industry estimated that in 1960, over 40 million persons took part in recreational boating and that Americans spent more money on pleasure boats than on any other recreational activity.

The growth in boating has been particularly marked in the last decade as the following table shows:

Total Recreational Boats in Use

1904	15,000	1956	6,686,000
1913	400,000	1957	6,954,000
1930	1,500,000	1958	7,330,000
1947	2,440,000	1959	7,800,000
1952	4,333,000	1960	8,025,000

The advent of the outboard motor has greatly assisted in this growth. At the same time, pure sailing has slackened its rate of increase and, though still popular, is giving way to the motor boat, either with an inboard motor or with a movable outboard. The trend in recent years has been toward larger, more powerful boats. The average size of the outboard boat sold has increased from 13.7 feet in 1955 to 15.0 in 1960, and the percentage of boats 16'7" and over has increased 4.5 times. The average horsepower of outboard motors sold has also increased, from 12.9 horse power in 1955 to 27.4 horse power in 1960.

There is also a trend toward larger inboard boats. Between the years 1954 and 1958, the number of inboard boats measuring from 16 feet to 26 feet, increased 39%, and those 26 to 40 feet increased 128%.

Other trends in boating are illustrated in the following tables. They show a marked increase in the growth of water skiing, and a decline in the growth of fishing and hunting as reasons for buying outboard motors and boats:

Primary Reasons For Buying Outboard Motors	1956 %	1957 %	1958 %	1959 %	1960 %
Cruising	20.4	28.0	28.8	28.0	28.0
Fishing	62.2	48.5	45.0	42.1	41.5
Hunting	7.5	7.4	6.7	6.9	4.2
Skiing	8.3	14.4	17.7	19.6	22.0
All Other	1.7	1.7	1.8	3.4	4.3
Total	100.0	100.0	100.0	100.0	100.0

There seems little doubt that boating in all its forms will continue to grow throughout the United States as incomes increase and automation brings its resultant increase in leisure time.

BOATING IN MASSACHUSETTS AND BOSTON

Massachusetts and Boston have shared in the national growth of boating. Complete statistics are not available on the number of boats in Massachusetts and Boston, but a source of comparison between this area and others in the United States is provided by the following table, which shows the number of outboard motors in use in 1959:

Metropolitan Areas	Number Of Outboard Motors in Use in 1959	Number Of Outboard Motors Per Thousand People
Boston	98,400	38.2
Chicago	236,000	38.2
Cleveland	53,600	30.0
Detroit	194,000	51.8
Los Angeles	136,200	20.4
San Francisco	80,500	29.5
Miami	45,000	48.8
New York	368,500	34.5
United States		32.5

The Boston area has more outboard motors per thousand people than the corresponding national figure, and ranks well with the other major metropolitan areas. The

generally colder climate is one factor to Boston's disadvantage, with the boating season extending from only May to October. On the other hand, the Massachusetts area has particularly good sailing and boating facilities, which are still only partly exploited.

PRESENT AND PLANNED MARINA FACILITIES

Existing Marina Facilities in the Boston Area

There are over 60 boat and yacht clubs in the Boston area, as well as many public marinas and boat launchings extending from Marblehead in the north to Scituate Harbor in the south. They vary in type from excellent yacht clubs, such as those in Marblehead, a town which is known as one of the most important yachting centers in the country, to unsatisfactory facilities on mud flats and in industrial areas close to Boston City.

The sailing and boating includes both inland river sport, and deep sea sport off the Massachusetts coast. Boston inner-harbor is, however, not suitable for sailing craft due to the commercial traffic and because of the oil pollution and floating debris. Only 10% of the slips at Boston Harbor Marina are occupied by sail boats. Among the boating locations near to Boston City are the Charles River which has become very popular, and South Boston where there are several yacht clubs. The Mystic River, though less suitable, is also used.

Future Construction

New boating facilities have been proposed for the Mystic River and the north shore, the latter to be incorporated with a housing development, and the Boston Harbor Marina has plans to add 200 boat slips this year to its existing 321.

DEMAND FACTORS

Demand For Marina Accommodations

As we have mentioned earlier, the great growth in boating which has occurred throughout the United States since the last World War has been shared by Massachusetts and the Boston area. Demand has outstripped

supply and, as a result, many unsuitable places are being used for keeping boats and for sailing.

It seems probable that the shortage of accommodations is at least partly responsible for the fact that 13,497 boats owned by Massachusetts residents were registered in New Hampshire in 1960.

A national survey showed that 52% of marinas intended to extend their facilities due to demand pressure.

In another survey, 58% of marinas, yacht clubs and boat yards had waiting lists for use of their facilities.

There are over 500 pleasure yachts documented by the Boston Customs in their district which roughly corresponds with the Standard Metropolitan Area. These boats are five net tons or more which means they would generally be at least 32 feet in length. Facilities for this size boat are in short supply and their owners would be expected to be potential customers for space at a Waterfront Marina.

Demand would be expected from downtown residents, both those now living downtown and those who will come to live in the new Waterfront housing. Operators of fishing excursions and chartered cruise boats would also be expected to require space in a Waterfront Marina. This type of facility already exists but only in limited quantity.

In addition to serving the needs of local residents, the Waterfront would be a particularly suitable site for catering to large visitors' crafts because of its proximity to the downtown entertainment centers and the other facilities required by persons coming ashore while on cruising trips.

A large number of large craft, over 30 feet in length, pass along the coast each year and bypass Boston because of the lack of suitable facilities. One source placed this number at 4,400 in 1958. Boston Harbor Marina is able to cater to 10 or 12 large boats, but turns away crafts each weekend during the season because of the shortage of berths.

At the present time the Charles River is used both for mooring boats and as an important traffic route to the sea. During 1960, 15,700 boats passed through the Charles River locks at the mouth of the river. This

point is frequently a bottleneck, particularly since the nearby drawbridge must be lifted to allow passage of the larger boats. Moreover, the drawbridge is closed on weekdays from 6:15 to 9:10 AM and from 4:15 to 7:40 PM. As a consequence, many people who are members of yacht clubs on the Charles River prefer to keep their boats elsewhere. A Waterfront Marina would avoid this inconvenience and therefore would be expected to attract people who presently use the Charles River.

Type Of Facilities In Demand

Though there is a shortage of accommodations for all types of boats in the Boston area, the site in question is most suitable for a predominantly power-boat facility. Not only is there most demand for this type of accommodation, but in addition, the power-boat owner is likely to contribute more to the sales center as well as to the other commercial firms on the Waterfront. Moreover, the great majority of boats that will use the Harbor, whether local or visiting, will be power boats.

We have previously mentioned that the popular size of both boat and outboard motor is becoming larger. The marina should be able to cater to craft of over 25 feet in length. Some boats requiring accommodations will be over 55 feet in length and some provision should be made for this as well.

Accommodations should be in the form of boat slips rather than moorings. Slips are easier to arrange in satisfactory order. Power-boat owners are convenience-minded and when in port, need to be able to work on their boats, have easy access to and from the shore, and connect power lines from the shore.

No provision should be made for pulling boats out of the water for inspection or repair. This occupies too much land and repair facilities are available elsewhere in the Boston area.

THE BOSTON MARINE SALES MARKET

THE BOSTON MARINE SALES MARKET

EXISTING MARINA DEALERS IN GREATER BOSTON

At the present time, there are 177 dealers in boats, equipment, and supplies in the Boston metropolitan area. 94 are outside the city and 83 inside. Those in the city deal mostly in equipment and supplies, and sell comparatively few boats. The majority of pleasure boats are sold by dealers outside the city. Generally, the manufacturers of boats, motors and engines sell directly to the dealer. Only one in five uses a wholesaler. Marine equipment and accessories, however, tend to be distributed by wholesalers.

For many years, the Waterfront has been the location for firms serving the shipping industry. The recent strong growth of the pleasure boat industry has so far had only a small effect on their over-all business to date. With the gradual decline of commerce and shipping in this part of the harbor and the changing times, the pleasure boat industry is likely to continue its expansion.

There are over 50 firms within the project area providing products and services in connection with marine operations. They include boat and equipment dealers, marine repairers, tugboat firms and marine surveyors. They employ over 500 people and occupy close to 300,000 square feet of space, mostly of poor quality, holding it at generally low rentals. With a few notable exceptions, their premises are of poor appearance and there have been comparatively few attempts at modernization.

Twenty of the fifty firms deal with the pleasure boat industry. Some are entirely wholesalers, but the majority deal in both wholesale and retail trade. Of these, it is estimated that 75% of their revenue is wholesale, and 25% retail.

In spite of the gradual disappearance of ships from the area, the Waterfront has managed to retain some of its traditional marine "image." At the present time, however, the dispersal of the marine traders throughout the area is acting against the formation of a strong trade. Both wholesale and particularly retail trade would be

greatly strengthened by gathering the firms together to facilitate comparison shopping ; and to provide them with better loading and unloading facilities. The present facilities are very inadequate.

DEMAND FOR MARINA SERVICES AND SUPPLIES

Wholesale and retail trade in the surrounding towns are expected to continue and should increase with the growth of the pleasure boat industry.

There is also expected to be demand for retail goods from the office workers in the nearby downtown business areas, and from people living in towns outside of Boston who want to comparison-shop rather than buy from their local dealer. The former source will soon be increased considerably when the Government center is built.

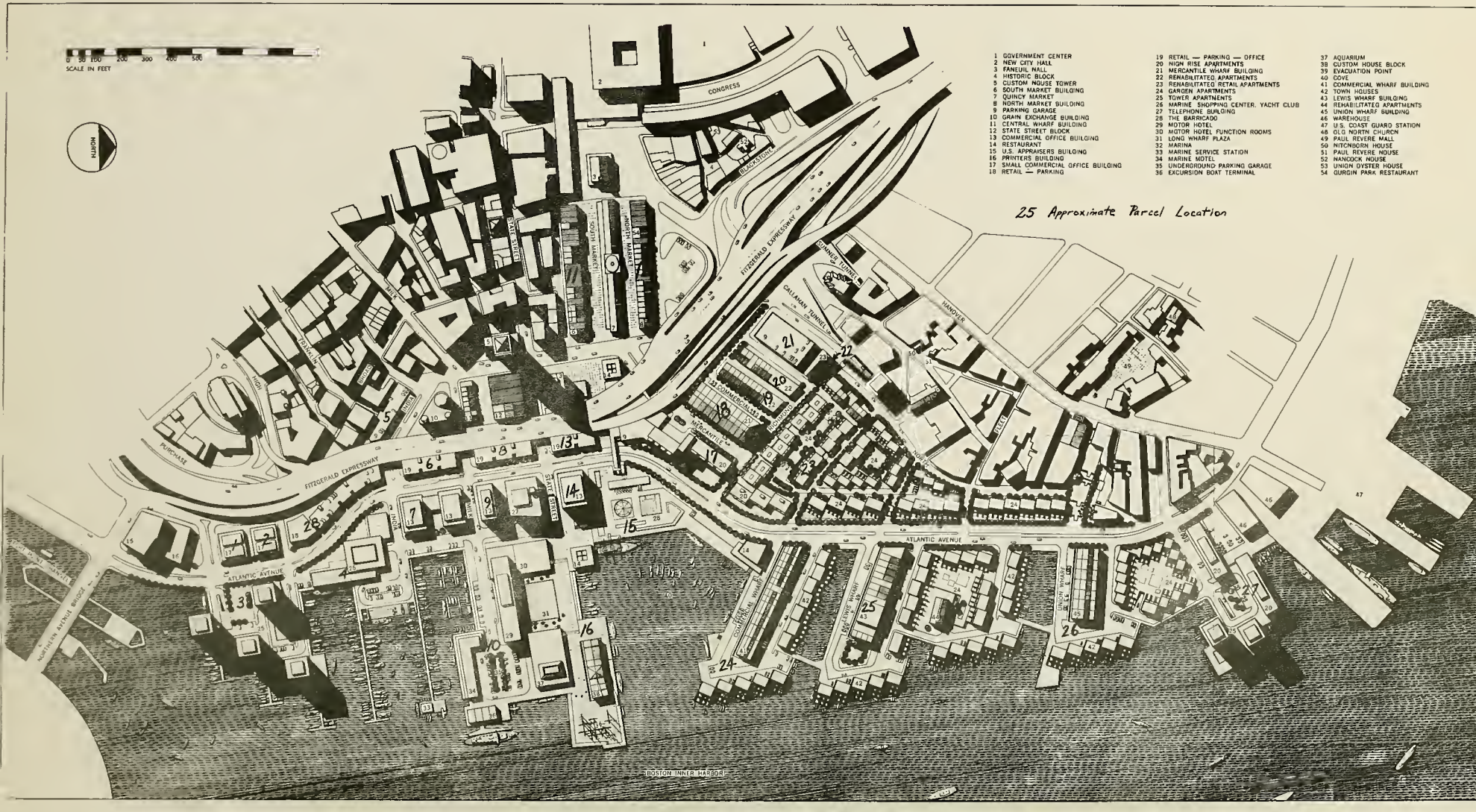
A third source of possible demand will come from new Waterfront residents brought in by the proposed housing development.

CURRENT MARINE RENTALS

Rents at present being paid by firms on the Waterfront are uniformly low. Firms dealing in retail goods generally pay the highest rents, varying from $.87 to $2.30 per square foot for premises which vary in size between 1,000 and 11,000 square feet. Wholesalers pay from $.30 to $1.00 and the bulk of them occupy from 2,000 to 9,000 square feet.

The rentals being obtained at present are much lower than would have to be charged if a Marine center were built for these tenants. The question arises whether they would be willing and able to pay the higher rentals, even though increased business would almost certainly result. The greatest benefit would be derived by the retailers and wholesalers. The engineering firms and those that deal mainly with the shipping industry are not likely to gain greatly by moving into new premises. They will have more difficulty in affording the high rentals, and may have to be relocated elsewhere, possibly in South Boston, where they would be nearer to the majority of their customers, and where accommodations would be less expensive than in the new Center.

MARKETABILITY AND LAND USE ANALYSIS



SITE PLAN

DOWNTOWN WATERFRONT FANEUIL HALL RENEWAL PLAN

WATERFRONT REDEVELOPMENT DIVISION, GREATER BOSTON CHAMBER OF COMMERCE

GENERAL FACTORS

The site of the proposed project is unique and represents in many respects an unusual competitive advantage over other existing or proposed urban renewal areas and, in fact, over many private sites. This is principally because of the Waterfront position which offers sweeping views of the Harbor and Logan Airport. Another significant contributing factor is the proximity and convenience of the site to the financial, general office and retail districts and to the new Government Center. A third factor is the substantial size of 100 acres which permits the creation of a radically new environment while retaining historic and worthwhile buildings and allows the utmost flexibility in land use planning.

Objectives

With such an extraordinary site with which to work, the objectives were as follows:

1. Develop the Waterfront for public as well as private uses so that the views and colorful activity on the waterfront could be shared by those with business in the area, by tourists and by the general public.

2. Create support for the financial and business center to the southwest by renewing commercially that portion of the Waterfront closest to this center.

3. Take advantage of the trend now evident in the larger cities of "downtown" residential living through the creation of a waterfront residential community. A consequence of this would be an improved and harmonious environment for the North End.

4. Preserve the historic buildings and refurbish or convert others so that public consciousness of Boston's earliest historic traditions remains.

5. Improve tax revenue by attracting a character of building and tenant designed to raise general assessed values above the level now prevailing.

Limiting Conditions

Certain conditions now existent should be eliminated, reduced or resolved in order to achieve the best possible economic and planning climate for renewal.

1. We are assuming that relocation proves feasible for the produce, meat and fish merchants; for wholesalers and general commercial businesses in the project area.

2. We advise if possible the elimination of the Union freight line railroad trackage between the South (New Haven) Station and the North (Boston & Maine) Station. If this is not feasible, its use should be sharply curtailed. Existence of this trackage tends to divide the waterfront from the rest of the Downtown area. Elimination will help to promote the desired unity. Noise and traffic disruption, even on a reduced scale, are further minor impairments to marketability. This would be true even if freight movements were limited to late night operations.

3. It is assumed that harbor pollution and flotsam will be eliminated or substantially reduced. Some, but by no means all, of the pollution results from broken and deficient sewer systems in the project area. These will, of course, be eliminated but river and channel pollution should be studied as well.

4. It is assumed that property tax assessments on new construction will be within the capacity to pay of private sponsors; otherwise, land marketability would be seriously impaired. It is our general experience that resistance is encountered from builders and investors when taxes exceed 3%-3½% of the value of the land plus cost of improvements.

5. We have made our calculations on the basis of a five year absorption of the proposed units. This has been necessitated not only by the

practicalities but by the volume of concurrent new competitive construction and by the large size of the project itself.

6. We have been advised by the engineering consultants that the existing land elevations are two feet below the ideal level necessary to eliminate the danger of flooding. We favor raising the grade by a land fill operation over alternatives such as raising first floor grades of all structures. The latter solution provokes problems on retail ground floor use, public use of lobbies, etc. It also does not eliminate the disruption and inconvenience which flooding produces. In a large scale renewal operation of the type proposed, a removal of flood danger is the reasonable course.

7. Since existing grades must in all probability be raised, the planning consultants have recommended the relocation of Atlantic Avenue as shown on the site plan, so that it is routed closer to the Expressway between South Market and India Streets. We concur in this re-routing for the following reasons:

   a) It can be accomplished at little additional cost.
   b) It provides a larger land area on the water side of the area for a more cohesive land use plan, including the need for parking.
   c) It helps to reduce the impression that the Expressway and Atlantic Avenue are barriers to waterfront activity by those in the retail, financial and general commercial sections.
   d) It is part of a traffic solution which eliminates the need for use of the road under the Expressway.

8. The question of sub-surface conditions as they relate to the soil bearing qualities of the sites, the questions of land fill operations and bulkheading of piers and slips will be fully discussed and analyzed for their effect on marketability and land value.

POPULATION AND ECONOMIC FACTORS AFFECTING DEMAND

Population growth in the New England states has been well below that of the nation for the last ten years - a phenomena which is expected to continue. The State of Massachusetts has been one of the slower growing states adding less than 10% from 1950 to 1960 as compared to 14% for New England. The same basic relations should prevail for the coming years. Massachusetts growth should be in the 5-7% range as compared to 9% for New England.

Most Massachusetts growth has been in urban fringes. This was also the case in Boston. Suburban areas population scored significant gains while Boston population declined over 100,000 to about 700,000. The effects of this population loss can easily be overemphasized. Households, the basic demand unit for housing services, actually increased over the decade by 6,584. The growth was provided by a 100% increase in single persons households and lesser growth in two person households. Boston still remains one of the most densely settled areas in the nation.

More important from the market viewpoint than population loss is the high and rising personal income of Boston households. Massachusetts ranks 9th of the 50 states in per capita personal income. Similarly Boston personal income both per capita and per household is above almost all the major cities of the northern industrial belt. The rise from 1949-1959 exceeds the national average. About 4,600 households move into the over $7,000. income level each year, and within reach of recent or new housing. Residential rents as a percent of incomes are historically low. Boston households both can and will pay higher rentals for improved housing.

The Greater Boston Metropolitan area is in the forefront of a new industrial revolution in Massachusetts. Basic employment figures show a rapidly expanding total employment, and a dramatic shift from traditional low growth industries to technologically advanced and high growth industries. Employment expanded more rapidly than population or working age population. Within the City of Boston, manufacturing and wholesaling employment is giving way to increased employment in Finance, Insurance and Real Estate, Transportation and Communications, Business and Professional services. Though total employment has declined slightly, those important categories that make Boston the New England control center are expanding.

Rapid growth in office employment, marks Boston as a finance and management center of growing stature. This is important for hotel and motor hotel marketability. Business travel and travelers is directed to where business is being generated, where it is being financed and where top management operates. This goes far to explain the strong hotel industry in Boston and why prospects of future growth are bright. The erection of the Government Center project will further bulwark this thriving industry.

A good share of rising personal income is generated in the tightly clustered central office core adjacent to the waterfront renewal area.

Their total will be swelled by the Government Center project. The combination should support increased interest in recreational pursuits based in the nearby waterfront.

The economic base analysis points up the fact that population shifts within the corporate limits is only one dimension of economic change, and not an important one for the uses proposed for the waterfront. Far outweighing this change are the favorable developments that have a direct bearing on marketability.

REUSE PARCELS

The proposed project is somewhat unique since it includes a substantial area that is over water. The precise amount of land and usable water area depends on engineering and planning decisions on the creation of land masses. Parcels have been delineated, however, and boundary lines and parcel numbers added to the enclosed illustrative site plan.

We have coordinated with the planning consultants on required land areas, land use and absorption in terms of residential density; commercial floor area ratios; height and coverage provisions and parking. Based on our market recommendations, the land areas in the following table have been tentatively devised. They have been carefully reviewed to assure that the land is large enough to accommodate the proposed land uses over a five year absorption period.

Parcel	Sq. Ft.	Dimensions*	Permitted Uses
1	12,650	110 x 115	Retail, Office
2	12,650	110 x 115	Retail, Office
3	144,000	325 x 445	Multi-family, residential local business
4	115,000	445 x 450	Retail, Waterfront uses
5	15,000	60 x 235	Parking Garage
6	30,000	150 x 210	Retail, parking garage, office
7	34,300	140 x 245	Retail, Office
8	34,000	150 x 225	Retail, parking garage, office
9	14,000	140 x 100	Retail, office
10	217,000	710 x 325	Motel, parking, boat terminal restaurant
11	39,000	520 x 75	Multi-family raised rental, office
12	31,000	515 x 60	Multi-family raised rental, office
13	62,000	335 x 185	Retail, parking garage, office
14	23,000	230 x 100	Retail, parking garage, office
15	105,000	300 x 700	Public recreation
16	181,000	860 x 210	Instructional, public recreational, multi-family residence, retail office
17	89,000	125 x 625	Retail, multi-family, office
18	30,000	105 x 285	Retail, multi-family, office
19	16,700	60 x 280	Multi-family, residential
20	16,000	60 x 270	Multi-family, residential
21	29,250	120 x 245	Parking garage
22	5,000	125 x 50	Retail, multi-family, residential
23	332,000	645 x1,155	Multi-family, residential
24	213,000	640 x 360	Residential, restaurant, retail, office
25	370,000	685 x 675	Retail, Residential, office
26	228,000	570 x 465	Retail, Residential, office, multi-family.
27	143,000	500 x 350	Multi-family, residential, rental
28	50,000	90 x 375	Retail, parking, office
TOTAL:	2,592,150		

* Most plots are irregular in shape. Lineal footages given reflect important plot sides. Square foot area calculations rule.

SITE AND PLANNING FACTORS

Major Planning Objectives

A major objective is the reunification of the Waterfront with the central business district, a unity that was disrupted by the construction of the central artery and broken by the placement of a walled access ramp at the foot of State Street.

A second objective is to create a cohesive land mass in the focal point of the project, namely, the area from State Street south to the Northern Avenue bridge. This area should be free of divisive major thoroughfares and sufficiently large to assure adequate planning flexibility.

How may these objectives be achieved?

Greater unity can be achieved in various ways. First, the elimination of the service road beneath the central artery will eliminate a dark ribbon of vehicular and truck movement which makes the waterfront appear uninviting. A key requirement is to employ the areas under the artery for multi-story parking, for retail on the street frontages and for possible expansion of marine sales in the area between Broad and India Streets. This will tend to obscure the position of the artery and minimize it as a psychological barrier while, at the same time, making excellent use of the underlying ground.

Relocation of the State Street access ramp is considered essential to waterfront marketability. This will enable more effective utilization of the key parcel which lies between State and South Market Streets, from the Artery to Commercial Street. It will open the waterfront areas to fine vistas and make pedestrian access more direct and more pleasant from South Market Street.

The re-alignment of Atlantic Avenue, as shown on the illustrative site plan, allows vehicular traffic to be diverted away from the water's edge and provides a sufficiently large land mass for effective public, residential and commercial utilization. Note also how pedestrian access has been improved by elimination of one broad thoroughfare, the Expressway service road.

Locational Influences

The waterfront is ideally located in relation to the Government Center, financial and office centers, retail and amusement sections. From this superior quality, administrative, professional and executive work force will emanate much, but not all, of the demand for office suites. In common with other major urban centers, the great majority of households will be childless, or in a few instances, have pre-school, or post-school adult children. For this reason, the quality rental units should predominately feature smaller suites, with 65%-70% studio and one bedroom apartments, with the balance two and three bedroom apartments. Some units will also be rented to suburban, older families who desire the convenience of downtown living. There will also be many corporate transferees and new corporate employees as the Boston area's growth in electronics research and development continues.

Housing Types

We do not consider it good social or economic planning to stratify completely the character of residential units to be built and to create a monolithic type environment. In the first place, a large number of luxury units will have been completed before this project materializes. Although we recognize demand as a continuing factor, nevertheless, considerable skimming of the market will have taken place by competitive units previously completed. This is not to imply that the subject location will have trouble competing with Charles River Park and other units. On the contrary, it will compete well for the available demand . That demand is not inexhaustible. Second, the location lends itself ideally to different types of housing ranging from rehabilitated units of all types, modest garden type walk-up apartments to individual town houses, to moderate height, upper middle income units and, finally to tall, fireproof, luxury suites. Thus, it is logical to conceive of low, three or four story walk-up units at rents of $25.00 to $30.00 per room monthly on upper Atlantic and North Streets adjacent to the colorful North End section. Scattered through the northerly portion, we conceive of middle income moderate height apartments with median monthly rents in the $38.00 to $45.00 group. The luxury units will rent from $48.00 to $65.00 per room monthly.

Construction of this wide range of building types at different costs and rents will insure far greater marketability by

tapping solid families who cannot or will not pay the top level of rent.

Absorptive Capacity

We anticipate that the Boston Standard Metropolitan Statistical Area will continue to absorb 10,000-12,000 new housing units per annum. It is logical to allocate a rising proportion for the city based on Boston's recent experience as well as that of comparable S.M.S.A.'s (Table 17). The Boston share of the total market should rise to 1,000 units. In both suburban areas and Boston, the rental apartment will tend to dominate the market for the 1960 decade. We believe that Boston will increase its share of the total market because of the new environment that urban renewal is creating in convenient, downtown locations. The demographic forces at work are creating single person and childless households who for reasons of age, place of work, income and preference, will show a tendency to live downtown. Rising personal incomes means that more households can afford the rents associated with new construction. Activity to date suggests that there is a firm base for a moderate scale, continuing increase in rental housing demand and that Boston will improve greatly over its performance in the 1950-1960 metropolitan market.

Out of the 1,000 unit annual Boston allocation, we conclude that about 650, or 65% of the units will be rental apartments and the balance one and two family houses. Out of the apartment allocation, we have assigned 400 units to the Waterfront area, for a five year total of 2,000 units. This total includes units created by conversion or rehabilitation. There should be no question concerning the absorptive capacity over a five year period of some 150 town houses directly on the waterfront.

We have reservations about the economic feasibility of employing non-waterfront granite and historical brick buildings for the purpose of conversion to residential accommodations. While those on the waterfront have an atmosphere which appeals to many households we have doubts about this type of rehabilitation on a grand scale. Any large scale rehabilitation of non-waterfront wharfs and their conversion to apartments will inevitably require a "write-down," that is, the re-sale of the units in accordance with a rehabilitation plan at prices far less than the acquisition cost. We recommend that a special rehabilitation study be undertaken to determine in depth whether these conversions are feasible. We are inclined

Category	NUMBER OF UNITS New	Rehabilitated	Type of Units	Apt. Distribution	Mo. Rent Range
LOWER INCOME ($4,000-$8,000) 599 (Parcels 18,19,20,23)	400		New, 3-4 sty garden apartments.	50% 1 B.R., 30% 2 B.R., 20% 3 B.R.	$25-$30
		199	Non-waterfront converted wharfs.	50% 1 B.R., 30% 2 B.R., 20% 3 B.R.	$30-$40
MIDDLE INCOME ($7,000-$20,000) 790 (Parcels 23,24,25,26, 27)	253		4 sty houses.	50% 2 B.R., 50% 3 B.R.	
	72		6-9 sty elev. apts.	20% Eff., 40% 1 B.R; 30% 2 B.R; 10% 3 B.R;	$38-$45
	150		Waterfront Town Houses.		-
	50		Efficiencies for rent in Town Houses.	100% Efficiencies	$60.00
		84	Waterfront converted wharf.	50% 1 B.R., 50% 2 B.R.	$35-$50
		181	Non-waterfront converted wharf.	25% Eff; 45% 1 B.R.; 30% 2 B.R.	$30-$40
UPPER INCOME (over $18,000) 600 (Parcels 3,17,29)	450		Tall, luxury apartment.	20% Eff; 50% 1 B.R; 30% 2 B.R.	$48-$65
	150		F.H.A. 231 (Elderly) Housing,	30% Eff; 60% 1 B.R; 10% 2 B.R.	$40-$45
TOTALS:	1,525	464			

to feel that an unusually high acquisition cost, plus extraordinarily high costs for conversion, will tend to defeat the chance of renting the units at less than the necessary $40.00 per room maximum without a very large write-down.

For the upper income, tall elevator structures, we recommend a maximum coverage of 25%; 80 unit per acre density and an 18 story height limit. For the middle income garden apartments, we recommend maximum coverage of 40%, minimum lots of 1,500 square feet per household and four story height limit. For the middle income tall elevator structures, a coverage of 25%, 65 units per acre density and a 9 story height limit appears reasonable. For the low income garden units, we suggest 40% maximum coverage, 40 units per acre density and a four story height limit. For planning purposes it is suggested that the number of units the market seems capable of absorbing should be increased about 10% when the urban renewal controls are written. This will protect against an unduly conservative projection of demand by the market analyst.

All coverage recommendations are for net usable land, exclusive of public streets.

TRANSIENT (HOTEL-MOTEL) MARKETABILITY & LAND USE

Marketability

The Boston area has sustained a substantial motel and motor hotel boom, starting first in the peripheral areas on major arteries and thereafter creeping gradually to in-town locations. Despite the unusually high level of new construction, hotel and motel occupancy has been sustained at a level higher than the national average.

The new construction, however, has been lacking in convention and business function facilities. Downtown's primary function in the transient market is to make available convention facilities designed to attract the regional and national group meeting business. Any new hotel which contains a high ratio of this type of space can compete very effectively against in-town motels and the older more obsolete hotels. In addition, there has been some demolition of older hotels and rising occupancy on a weekly or monthly basis. This has had the effect of tightening the supply of conventional hotel rooms.

The new 1,000 room Prudential Center Hotel to be operated by Hotel Corporation of America will be directly competitive

to any hotel construction on the waterfront. We nevertheless feel that there is a place for another although smaller, hotel on the Waterfront. In our judgment the market should be able to absorb a hotel in the proposed site of about 350 units to serve primarily the commercial traveler with business in the financial district and the conventioneer.

Land Use

The 350 room tower motor hotel should be of reinforced concrete construction and have a 200 seat public restaurant, a 500 or more seat banquet room and function rooms of about 20,000 square feet for meetings, social and civic events. Under-cover parking for 210 spaces would be required. Patrons should be able to register in their car if they so desire. (Parcel 10).

The motor hotel should be located in the southerly end of the project area, directly on the water and preferably between Milk and State Streets on Central Wharf. In this location, it can serve equally well the financial district to the southwest and the new Government Center Complex to the west and northwest.

In addition to the motor hotel but associated with it, we visualize an 80-100 unit, two story "boatel" or marine inn, on the waterfront, with open parking for 60 cars. This unit would have its own berthing facilities. It would have a cocktail lounge and restaurant and perhaps a few meeting rooms. Room sizes would be smaller and rates less than the motor hotel. A more informal air would be characteristic. Every effort should be made to minimize extras and tipping. From a practical viewpoint, it would serve as an over-flow accommodation on conventions booked by the hotel. (Parcel 10).

OFFICE MARKETABILITY AND LAND USE

Marketability

Impressive direct evidence exists of the high competitive status of the Boston office market. Even after adjustment for a relatively high level of taxes, rents in prime office buildings are relatively high and frequently exceed $5.00 per rentable square foot. Coupled with this is a very low vacancy rate. Still another factor is the significant obsolescence which afflicts most of the older

structures in the financial district. We are also aware of many major space users who are in inefficient space or scattered in various locations. With the general national economic prosperity, the strong resurgence of the Boston area, and a continuing increase in white collar workers as a proportion of the total labor force, the time appears imminent for a moderate amount of new office building construction.

The market represents a combination of growth and replacement. There is strong pressure being generated from major tenants in existing buildings to move to new, centrally air conditioned buildings as their space demands increase. Other pressure emanates from tenants dissatisfied with inadequate facilities.

The announcement that Prudential will proceed with its 950,000 square foot building, that the British Office Building on Pearl Street will proceed, plus the activity at Government Center will result in about 2,700,000 square feet of new competitive office space, excluding the 315,000 square feet to be occupied by Prudential.

Although this will naturally take a significant amount of future demand off the market, we have estimated that a market exists over a ten-year period for approximately 3,200,000 usable square feet of space. Of the excess of 500,000 square feet of space over what is currently in prospect, we have allocated 300,000 usable square feet to the Waterfront area. This conclusion is largely one of judgment and experience. It is based on past market performance, current plans, analysis of the local economy, character of the existing inventory, the status of the market and the quality and convenience of the location. The 300,000 square feet is less than 10% of our ten year projection. It is considered conservative and readily attainable.

Land Use

The logical place to construct new office buildings is as close as possible to the existing important Downtown office streets so that they may become a part of the office district. The construction of the Fitzgerald Expressway, allied to other factors, has produced a zone of deteriorating old property between the Waterfront and the best office streets. Thus the area between the Highway and Battery March and High Street constitutes an impairment to the natural spread of new construction towards the Waterfront which commenced with the construction of the Travelers Building and is to be continued with the proposed British Office Building. To the extent that

this patch of deterioration remains, the link-up between the financial district and the Waterfront becomes more difficult and marketability less well assured.

The best position within the existing boundaries of the project area is that adjoining State Street, on the inland side of the Expressway, but because sizeable plots are not available without the removal of substantial buildings and others of historical interest, it will be possible to locate only one or two medium size plots in this location. (Parcel 13).

The other good space remaining lies on the Waterfront side of the Fitzgerald Expressway. (Parcels 7, 9, 14). There are several excellent natural plots north and south of the Telephone Company building which front both on the relocated Atlantic Avenue and the Waterfront. A study of the illustrative site plan will indicate how convenient these sites are via Milk or India Streets to the financial district. Office workers and executives would have the convenience of the Atlantic Avenue subway station of the M.T.A., adequate parking under the Fitzgerald Expressway and the advantage of the Waterfront activity while still only a stone's throw from the hub of commercial and financial activity. It is hoped that subsequent planning will permit a boundary change to include the area from the Expressway to Battery March Street vicinity.

What types of office users are visualized? We foresee any type of general purpose office use involving a high ratio of white collar and clerical help. For example, insurance companies and advertising agencies require a high proportion of clerical workers for machine, art and other operations. Companies of this type frequently avoid highest rent areas and instead settle on the fringe of the financial and general office area at somewhat lower rent levels. Certainly the indicated plots are ideal for the purpose.

Another definite prospect is the small company or regional office of a large company which desires to enhance its identity by occupying an entire or substantial part of a building so that the structures are named after them.

An intriguing possibility is the establishing of an office machine sales and service center. Surely I.B.M., Burroughs, Remington Rand, Underwood, Olivetti and the

rest could profit from a central exhibition space where all potential customers could view their products.

A distinct possibility is the establishing of a home furnishings and decorating center in a modern showroom type building. Buildings of this type are currently under construction in New York while a Merchandise Mart of an impressive calibre was recently finished in Atlanta, Georgia. Providence, Rhode Island is currently planning a home furnishings center in several rehabilitated structures in the East Side project.

Several persons advanced the thought of a World Trade Center to house commercial attaches of foreign consulates, importers, exporters, foreign freight fowarders, international corporate offices and other allied uses. Whether this is feasible remains to be studied on a more extensive basis.

We anticipate these structures will be somewhat less expensive than the British Office Building, of lesser density and with a slightly lower rent. We suggest a land coverage of a maximum of 60%, with a 4.00 F.A.R. and a 12 story height limitation.

MARINA-MARINE SALES MARKETABILITY & LAND USE

Marketability

In our inquiry into the feasibility of marine commercial activity within the Waterfront project area, we have investigated both the prospects of building a marine sales center and the prospects of building an associated marina.

Sales Center:-
At the present time, there are 177 dealers in boats, equipment and supplies in the Boston Metropolitan Area. Eighty-three of these are in Boston City and deal mainly in equipment and supplies. Most of the boats sold in the Boston area are sold through those dealers outside the City.

There are 50 firms within the project area providing products and services in connection with marine operations. These include boat and equipment dealers, marine repairers, tug-boat firms and marine surveyors.

They employ over 500 people and occupy close to 300,000 square feet of space, most of it being of poor quality.

Twenty of these firms deal mainly with the pleasure boat industry. A small number are entirely wholesalers. Most are both wholesalers and retailers, and it is estimated that 75% of the revenue of these firms is wholesale and 25% retail. They like the Waterfront and would prefer to remain because the area now has an established marine "image". The wholesale side of the business no longer depends on the waterfront location since the retailers dealt with come from all over New England and parts of New York State. Retail trade depends mainly on people who work in the nearby downtown office center. This trade continues in spite of, rather than because of the traders involved, because the scattered location of stores and quality of display works against the formation of a strong retail trade.

A replanned center would attract more retail trade particularly if associated with a new marina. This increase in trade should enable the traders to pay higher rents although they might be obliged to trade only on a retail basis and move their wholesale operations to less expensive accommodations elsewhere. On the other hand it is possible that if the wholesalers were grouped together and given adequate parking and loading facilities, their business might warrant higher rents as well, and might make it possible for them to stay. (Parcels 1, 2, 28).

Marina:-
There are over 60 boat and yacht clubs in the Boston area and many public marinas and boat launchings, spread from Marblehead in the north to Scituate Harbor in the south. Nevertheless, the demand for boating facilities appears to exceed the existing supply. This situation is not confined to Boston but is nationwide. Most of the better Boston yacht clubs have full memberships and even the less attractive clubs have increased memberships. Although the Boston area is a popular one for sailing boats, the Harbor is not suitable for them because of the commercial traffic and the difficulty of maneuvering. There is a nationwide trend towards the convenience of power boats, and accommodation in Boston for power boats, particularly the larger boats is in very short supply. Several of the yacht clubs are building or planning to build more boat slips since this type of berth has many advantages over open water

mooring. In spite of the high cost and high rents charged, there is still a large unsatisfied demand. Sailing boat owners appear more willing to moor in open water and approach by dinghy, and there is sufficient of this latter type of space already available. For the above reasons we recommend that the projected marina should cater primarily to power boats rather than sailing boats.

The power boat owner is more convenience minded than the sailing boat owner. He prefers to tie up to a dock or boat slip where he can obtain water and electricity by shore line and where maintenance is made easier. The alternative of a launching ramp occupied too much room and encourages the use of boat trailers which add to the waterside congestion. Slips should cater for boats over 25 foot in length since there is not only considerable demand for this type of accommodation but the larger boats bring more trade to the Waterfront than do smaller craft and their owners are able to pay higher boat slip charges.

It is anticipated that business will come from those who already own large power boats but who keep them elsewhere because of the lack of good downtown facilities; from residents of the new apartments and houses to be erected on the Waterfront; and from the nearby residential districts of Beacon Hill and Back Bay; and from transient boats, since it is estimated that 4,400 boats over 30 foot in length by-pass Boston Harbor each year because of the absence of suitable accommodation.

Land Use

In-town marinas are not new. There are several, for example in New York City on both the Hudson and East Rivers. There appears to be no reason why a moderately sized facility of 150-200 slips would not succeed since it could more readily serve the power boating enthusiast who lives in town rather than in the suburbs. The transient potential also cannot be overlooked. With adequate and accessible facilities, many boating families would be inclined to travel to Boston, berthing at the marina for short periods.

On the negative side is the problem of pollution and flotsam and jetsam in the Harbor. It must be assumed that concurrent steps will be taken to minimize or eliminate these handicaps before the full marina potential

may be realized. Another limitation will be the inability of the boatsman to effect substantial repairs or to store his boat in the off-season.

It is, nevertheless, felt that a marina will serve a need by capitalizing on the growth in leisure time power boating while, at the same time, contributing color and activity to the Waterfront.

Marinas have not been overly profitable private capital investments in the past. For this reason, it is doubtful that the land and riparian rights could be effectively sold for the purpose. Instead, a public ownership is envisaged, with an operator making the capital improvements under a long term (20 years or longer) net lease. An alternative would be for the municipality to install the improvements and then net lease them to an operator for a shorter term (5 to 10 years). If these disposition techniques were adopted, the operator would not have to expend his capital in a land purchase but would apply it to the improvements and to the operation. The lease rental would provide income to the City in lieu of taxes.

RETAIL MARKETABILITY & LAND USE

How many square feet of convenience retail and service stores are required to serve the every day needs of the residents in the urban renewal area? To what extent must our calculations be influenced by the proximity of the project to the financial and governmental centers and to the North End project? How may the retail uses be most efficiently distributed to insure the ease of shopping so essential to downtown living?

Convenience Stores

Generally, we recommend 10-12 square feet per capita of convenience retail and service stores to serve adequately the trading area population. These stores are basically food, eating and drinking, dry cleaning, laundry, beauty salon, shoe repair, barber, drugs, housewares, stationery and local banking. Excluded are general merchandise, apparel, furniture, hardware and appliances, miscellaneous retail as jewelry, cameras, antiques, etc. Also excluded are the special retail categories of gasoline, automotive and building supplies.

Assuming 2,000 apartments, we estimate the area will have a population of 4,500 people, or 2.25 persons per apart-

ment. In addition, another 1,000 estimated persons from the North End will use the facilities, for a total of 5,500 people. Thus, from 55,000 to 66,000 square feet of retail and service space will be required to meet basic needs. There is adequate ground floor space in the Mercantile Wharf and Commercial Block Buildings (scheduled for rehabilitation and conversion) to serve the needs of all the North End apartments. (Parcels 18-19). Additional convenience stores are planned for the high rise apartments at both the south and north ends of the project areas. (Parcels 3, 26, 27).

Restaurants

Restaurant facilities will also be scattered throughout the area, principally in Parcels 10, 16 and possibly in Parcels 7 and 9. The hotels will also have the usual small specialty shops and convenience stores.

Marine Retail

The special marine sales and service center will be located in Parcels 1 and 2 and may use Parcel 28 as well. These parcels are opposite the Marina yet will cater to a regional trading area. We judge that as much as 60,000 square feet of marine sales space can be leased to those companies already in the area and to others. Boston logically should be the marine sales and service center for all New England. The location is ideal for the purpose.

No question of marketability exists in terms of the incipient demand arising wholly from relocation of the firms in the project area. Undoubtedly, many of the 50 firms occupying 300,000 square feet would like to relocate in new retail quarters, perhaps divorcing their wholesale or repair business and placing the latter in less expensive buildings in East Boston or elsewhere. We also anticipate that new boat dealer franchises will be attracted to this marine sales center.

The reservation is solely related to the rent paying capacity of marine retailers. Efforts will have to be made to keep building and land costs to the lowest possible level so that rentals will not exceed $2.50 per gross square foot of building area. If this is possible,

and we believe it is, as much as 60,000 square feet can be absorbed for the purpose. This is only 20% of their total retail, wholesale and repair space.

Retail Uses Under the Expressway

The retail space in the under artery plots between the high rise apartment building and India Street totals 68,000 square feet. We envisage shop frontages facing on both sides of State Street and both sides of Central Avenue. Retail will only continue around the corner onto the re-routed Atlantic Avenue (between Central and India) if demand ultimately warrants it. The Atlantic Avenue frontage (on the west side) between Central and State, and between State and the F.H.A. 231 elderly housing residential building will be suitable for retail. Any remaining ground floor space, and all second floor space in the three plots between Commercial and India will be available for parking garage space. The uses we think will be marketable within this shopping location include:

Antique Sale Rooms
Office Stationery Sales
Automobile Showrooms
Office Machine Showrooms
Historical Guide Office
Airline Ticket Office
Theatre Ticket Office
Restaurants
Night Clubs
Specialty Retail

Retail Environment

We are anxious to insure that a suitable retail environment is created in the area between the elderly housing building and India Street. To achieve this it is desirable to unify the area rather than allow it to be split into three separate plots by vehicular traffic. We understand that the road system contemplated at present includes both State and Central Streets as through roads between the new Atlantic Avenue and Commercial Street, in the location of the Customs Tower. Some vehicular access will be needed for the public garages so it will not be possible to close the ends of the streets to form entirely a pedestrian area. However, consideration should be given to one or more of the following suggestions designed to create the desired environment.

1) Close the road ends at Atlantic Avenue and allow access at the Customs Tower ends. The road surface directly under the artery could then be mostly a pedestrian mall area.

2) Vacate either State Street or Central Street entirely with the object of grouping at least two of the three plots.

3) Make all four entries accessible only to cars using the parking garages and ban all through traffic.

If any of the above re-arrangements to the road system are carried out, it might be then necessary to provide a through road between the elderly housing high rise building and the adjoining State Street retail parcel to split up the parcel of land which would otherwise extend from India Street to Commercial Wharf without a break for traffic.

MARKETABILITY OF REHABILITATION

The Chamber of Commerce has requested that a preliminary study be made of the feasibility of retaining certain historic buildings and those older buildings of unusual architectural value. These buildings were selected after consultation with the Messrs. Whitehill and Cummings of the Historic Conservation Commission. During the course of the study, the Central and India Wharf buildings were demolished by the owners, leaving the following for study as possible acquisitions for rehabilitation and conversion:

Building	Present Use	New Uses
Union Wharf	Warehouse	Housing
Mercantile Wharf	Industrial, Storage	Housing, Retail
Commercial Block	Industrial, Storage	Housing, Retail
Block:- Commercial-Artery-Fulton-Richmond	Food Wholesaling	Housing
No. Market Building	Food Wholesaling	Housing, Office, Retail
So. Market Building	Food Wholesaling	Housing, Office, Retail
50-58 Eastern Ave.	Wholesaling	Housing

The following buildings are recommended to be excluded from acquisition on the grounds that they are standard structures currently offering good utility for commercial purposes and which do not in any way compromise the urban renewal plan or result in inappropriate or incompatible land uses.

Building	Use
Telephone Company	Office
Appraiser's Building	Office, storage
39-400 Atlantic Avenue	Printers
Long Wharf, Customs Block	Housing, Business
Commercial Wharf	Housing, Business
Lewis Wharf	Housing, Business
3 Blocks:- State-Commercial-Chatham-Change Ave.	Office
Quincy Market	Retail, Office
Faneuil Hall	Public Hall, Retail & Office
245-249 Atlantic Avenue	Warehouse & Office
Block:- 245 Atlantic, 224-242 Milk Street	Business
Richmond Street - 84, 90, 99-113, 100-108, 115-123	Housing, Retail, Mfg., Storage, Tunnel Ventilator
409-415 Commercial Street	Food Mfg. Wholesale
141-189 North Street	Housing, Retail
247-251 North Street	Social Club
Cross & North Streets	Tunnel Entrance & Vacant Land

In a general way, the marketability of converted wharfs on the water side is good. The successful conversion of Commercial Wharf and Custom House Block to apartments speaks for itself. There is a sector of the overall apartment market who prefer the atmosphere and quaintness of these massive brick structures and the color and activity on the waterfront.

As sites are considered further inland, as in the Mercantile and Commercial blocks or in the North and South Market buildings, the prospect of conversion to apartments or offices assumes less feasibility. For example, in the Mercantile block building, the cost of conver-

ting this building to apartments, plus its shell value, is as great as new structures. If rents are to be restrained so that households of low to moderate income may live comfortably on the rents, it appears that the land and present improvements will have to be re-sold on a "write-down" basis, that is for less than their acquisition cost. On this basis, the inland buildings may be successfully sold for rehabilitation.

The extent of the write-down will only be known after extensive architectural plans and cost estimates have been prepared; on the basis of these plans and cost estimates, the appraiser can then estimate the rental value of the space; capitalize the net income to get the market value after rehabilitation; subtract the rehabilitation cost; the difference is the value of the land and building shell before rehabilitation.

The North and South Market buildings appear feasible on a write-down basis for rehabilitation for ground floor office, showrooms or retail; second floor showrooms or offices and two upper floors of apartments. Where roofs have been raised to provide 5th floor space, they should be restored to their original gabled form. We do not favor the retention for sentimental reasons of any food wholesaling or retailing functions. This is an inappropriate use better performed elsewhere. The City owned Quincy Market building, on the other hand, is much more suitable for conversion by the City to a two-story office building, perhaps with some ground floor retail, with a modern, functional interior but preserving the Greek revival architectural style of the early 1800's. Among the many ground and upper floor uses possible for Quincy Market and, to a somewhat lesser extent, for the two other market buildings are:

Trade Center	Business Machines Center
Tourist Office	Public Utility Showroom
Theatre Tickets	Cafes and Restaurants
Airline Tickets	Antiques & Home Furnishings

We would recommend a special rehabilitation study, to be undertaken during the planning process, along the lines suggested by Section 12.1.7 of the Urban Renewal Manual. Several of the properties should be designated for a comprehensive, clinical study, including formulation of architectural sketch plans of the existing building and proposed changes; outline specifica-

tions and cost estimates and "before and after" appraisals. A further suggestion is to select one of the wharfs as Lewis or Union for a demonstration study of the feasibility of rehabilitation.

The attitude of F.H.A. that of the mortgage institutions are all important on feasibility. Preliminary expressions of approval and support should be obtained in connection with this study.

PARKING REQUIREMENTS

Office Parking Needs

The new waterside office buildings which will contain about 400,000 gross square feet, equivalent to 300,000 net square feet of space require a maximum of one parking space to every twelve workers. We base our estimates on 125 square feet of net working space to each worker. The number of parking spaces may be reduced to one space to sixteen workers but will depend on the type of office tenant eventually secured. The greater the proportion of executive type workers the more parking spaces there will be needed.

The floor area of the Telephone Building has been estimated from the site plan only and for this reason the suggested number of parking spaces should be adjusted if the area of 140,000 net square feet proves incorrect. In view of the closeness of the M.T.A. station and the non-executive character of the majority of the workers, we have allocated a parking ratio of one to sixteen. All of the office parking will be provided in the artery garages.

Retail Parking Needs

The Marine Sales stores should have parking space provided in the form of roof-top parking. The retail stores in the three under-artery plots between the elderly housing high rise building and India Street should be on the ground floor only. We have initially recommended retail parking in the ratio of one square foot of parking to one square foot of retail space but this is a top figure. The actual amount required will only be one to one if the majority of stores in this area are the type that attract trade from a distance, for example a group of antique dealers. If, however,

the stores are the type of local stores serving only recreational visitors, the Downtown office center, and the occupiers of the nearby new residential and office buildings, a ratio of one to one will be excessive. Our suggestions for the artery retail space are listed in the retail marketability and land use section.

We have not planned any parking for the Muscolini Building neighborhood retail because its customers will mostly live locally. The 12,000 square feet of retail space in the M.T.A. Building has been allocated parking of one to one and it will be provided in the adjoining underground rink park.

Hotel Parking

The motor hotel parking will be in the underground car parking adjoining it.

The boatel parking will be mostly open parking on the adjoining roadway. The remainder will be provided in the underground park.

Parking for Other Waterfront Activities

The parking needs of the visitors to the aquarium, to the boat terminal and to the various recreational activities on the Waterfront are more difficult to estimate. Any spaces that are needed over and above those open spaces provided along the waterfrontage can be accommodated in the artery garages and in the rink underground car park.

Residential Parking

The high rise luxury apartments will have their parking on a 1:1 basis in a basement beneath. The Housing for the Elderly should have parking in enclosed buildings on the site. The other new buildings should have either open surface parking or parking in garages within the buildings. They will not have underground parking.

EXTRAORDINARY SITE COSTS AFFECTING MARKETABILITY

In order to provide attractive water sites, the existing wharfs and piers must be enlarged by bulkheading and land filling, or by concrete decks, or platforms on corrosion resistant steel columns. The costs of such site

preparations may possibly qualify as part of net project costs. If not, they must be borne by a developer. If this proves to be the case, the extraordinary costs are a subtraction from what the land value would otherwise be under normal sub-surface conditions.

In order to assure that a negative land value would not result, we have assumed a hypothetical plot on which a two level concrete deck was constructed. The improvements as visualized consisted of a 210 unit apartment house and 43 town houses. The deck or platform cost at $7.00 a square foot was approximately equal to the land value. Thus, while no deficiency exists, the figures suggest a need for further study of platform costs in an effort to reduce them to levels which would leave a residual land value. It does appear feasible, however, to obtain the amount of rent necessary to at least cover platform costs. The reuse appraisals must take these extraordinary costs into consideration if they are not deemed to be eligible site improvements.

FEASIBILITY ANALYSIS - APARTMENT HOUSE AND DWELLINGS ON CONCRETE PLATFORM OVER WATER LOCATION

PLATFORM AREA:			138,128 S.F.
PROPOSED IMPROVEMENTS:			
(1) Rental Apartments			
A 15-story fireproof apartment house with three elevators, 210 apartments, 652½ standard rental rooms. 180,000 square feet of gross floor area. 1,675,000 cubic feet.			
COVERAGE, F.A.R. & DENSITY:			40% : 2.1 : 85
GROSS REVENUE AT 100% OCCUPANCY:			
652½ rooms at $750.00 per room annually			$489,375.
200 cars at $300.00 annually			60,000.
Miscellaneous			$ 10,000.
			$559,375.
ALLOWANCE FOR VACANCIES & CONTINGENCIES:			-$ 29,375.
EFFECTIVE GROSS REVENUE:			$530,000.
ESTIMATED EXPENSES:			
Taxes	$110,000.		
Operation	$100,000.		-$210,000.
NET INCOME, before debt service or depreciation			$320,000.
CAPITALIZATION:	8%	VALUE:	$4,000,000.
LESS, COST OF IMPROVEMENTS:			
180,000 S.F. at $16.00 (SAY) $2,900,000.* (No Foundation Cost)			
Garage - 200 units			
200 x 300 S.F. x $6.00±	$ 350,000.		-$3,250,000.
RESIDUAL LAND VALUE (before Platform Cost)			$ 750,000.
LESS PLATFORM COST:			
138,128 S.F. at $7.00±			-$1,000,000.
RESIDUAL LAND VALUE (excluding town houses)			-$ 250,000.

* Equivalent to $1.72 a cubic foot.

(2) Town Houses

20 Town Houses at 2,100 S.F.	=	42,000 S.F.	
		x $14.00	$588,000.
20 Garages at 300 S.F. per car	=	6,000 S.F.	
		x $6.00	$ 36,000.
23 Town Houses at 2,100 S.F.	=	48,300 S.F.	
		x $14.00	$676,200.
23 Efficiencies at 600 S.F.	=	13,800 S.F.	
		x $14.00	$193,200.
23 Garages at 300 S.F. per car	=	6,900 S.F.	
		x $6.00	$ 41,400.
TOTALS:		111,000 S.F.	$1,534,800

Average Dwelling Unit Cost:

$33,900.	Dwelling
1,800.	Garage
$35,700.	
$ 7,500.	Land Value
$43,200.	

LAND VALUE:
43 Lots x $7,500. (SAY) $325,000.

RECAPITULATION

LAND VALUE	- APARTMENTS	$ 750,000.
LAND VALUE	- TOWN HOUSES	$ 325,000.
TOTAL LAND VALUE:		$1,075,000.
LESS, PLATFORM COST:		$1,000,000.
SURPLUS:		$ 75,000.

TAX REVENUE

Property taxes have always been high in Massachusetts; Boston is no exception to this situation. The reasons are complex but basically are considered to stem from the inadequate amount of state financial aid to the communities. Another factor is the apparent discrimination practiced against the larger cities in the distribution of aid. As a result, property taxes frequently run 60%-75% of the total cost of municipal operation; this contrasts with less than 40% in New York City. The onerous property tax has inevitably led to reduction of the local tax base in the larger cities as commerce and industry moved out. It has dulled investment incentive to build new buildings because of the tax load; it has accelerated neighborhood deterioration by forcing on owners a policy of deferred maintenance.

Boston's condition was especially acute because of the high (40%) proportion of tax exempt real estate and because 75% of its revenue was raised by property taxes. A "new approach" to property taxation has been recently employed as a means of stimulating the construction of new buildings. The method consists of an informal agreement between the City and the builder-investor in which a certain percentage of gross rent is paid as property taxes. There are reported to be over 100 such agreements involving important owners and tenants. The policy, despite its seemingly direct discrimination against existing property owners, has enjoyed strong support from the newspapers, business groups and many citizens. There appears to be no substitute at the moment for the policy despite its expedient character, except perhaps for the broadened provisions of Massachusetts Statute 121 A. To terminate it would risk cessation of the vitally needed new construction program for a revitalized Boston.

It is clear that in the long run State legislative tax reform must first be taken to eliminate the discrimination practiced against larger cities. The State must also assume the cost of many operations now borne by the municipalities. Once this is accomplished, a complete tax re-assessment in Boston can then be undertaken.

Builder-investors may chose to construct their commercial or residential buildings under Massachusetts

Statute 121-A, such as the Prudential Insurance Company intends in their giant Back Bay complex. This provides for a limitation on the amount of property taxes in return for the investor limiting his equity return to 6%.

There appears to be little or no advantage in this arrangement so long as an equitable tax agreement can be reached. Chosing this statutory course categorizes the investment as a public utility, operating actually under state franchise and subject to all the restrictions and limitations of a utility operation. This would hardly appeal to an entrepreneur. It may only be regarded as a refuge against the uncertainty of the present system.

How does this state of affairs apply to the proposed renewal area? How does it affect the calculation of tax revenue?

First, it is always difficult to achieve a dramatic tax increase in a downtown renewal area where existing revenues are relatively high as compared, for example, with a purely residential blighted neighborhood. The chance of tax revenue gain is further inhibited here because sponsors of cleared sites will similarly seek property tax agreements, the effect of which will be to limit taxes to 2½-3½% of total development cost. In many instances the existing properties are assessed at 50-60% or more of market value, with a tax rate roughly 10% of the assessment. This means that the existing properties are paying the equivalent of 5-6% or more of market value in taxes. Without passing on the equities of this situation, we do nevertheless point out that the new uses must be relatively intense in order to obtain sufficient tax revenue at 3% of cost to constitute an increase over what currently is being received.

From the viewpoint of specific building types, new office building construction fares best for two reasons. One, taxes appear to run between 20% to 25% of gross revenue. This is only slightly above the rate in New York City. Two, typical office leases contain property tax escalation clauses in which any increases thereafter are borne by the tenants in proportion to rent or space occupied. Thus, from a fiscal viewpoint, office and general commercial uses are the most marketable in the renewal area, from a prospective sponsor's viewpoint.

It is more difficult to generalize on apartment houses and town houses. We have analyzed the property taxes

to be levied on Charles River Park Complex A and find that the amount is about 20% of the effective gross revenue, that is, the actual collections. It has also been estimated that the project has an approximate value of $10,000,000.; thus the taxes are 2¼% of market value. It is our judgment that taxes on apartments of the privately sponsored F.H.A. 220 type in the project area will approximate 20%-22% of the anticipated rent collections and 2½% of total development cost, perhaps slightly higher. The town houses similarly will run about 2½% of total cost.

A certain number of units may be built under Massachusetts Statute 121A and under F.H.A. 221 (D)3. Although these taxes may be somewhat lower than on the higher type housing, the difference will not be great and the effect on total tax collections small.

A table has been prepared and has been placed at the end of this section in which estimates have been made of the probable tax revenue increases. Assuming taxes at an overall rate of 2.75% of the total project cost of $57,000,000., the proposed tax revenue would be $1,425,000. The tax picture may be summarized as follows:

Taxes from New Construction & Rehabilitated Structures		$1,567,500.
Taxes from Structures to Remain		$ 505,920.
		$2,073,420.
Less, Existing Project Area Taxes	-	$1,695,900.
Tax Gain: (SAY)		$ 377,500.

To this total must be added the revenue obtained by the City from the assumed leasing of the Marina, from the parking planned under the Expressway and the public garage adjacent to Callahan Tunnel (Parcel 21) and, finally, rentals from a rehabilitated Quincy Market.

These tax estimates are regarded as conservative, that is, they are deliberately calculated in the lower range of probable revenue. They can be raised by increasing only slightly the estimated construction costs or by adjusting upward the percentage of tax revenue to total capital cost.

Also to be considered is the elimination of tax revenue losses which will inevitably occur if renewal treatment is not applied. The effect of renewal will not only halt the anticipated decline but provide ultimately the possibility of increases in taxes from new construction in contiguous areas. There are other less direct but nevertheless substantial benefits for the public, commerce and industry in the imaginative revitalization of the Waterfront since it will lead to an increased interest in the downtown area. This increased patronage will be felt in greater retail sales, more recreational and cultural activity, greater use of downtown financial and professional services.

Use	Area or Number	Estimated Land Assessed Values	Estimated Construction Costs*
Housing (Low Rents)			
New Garden Apartments	400 units	$ 320,000.	$ 5,520,000.
Rehabilitation near North End	199 units	$ 232,000.	$ 3,018,000.
Sub Total:	599 units		
Housing (Moderate Rents)			
4-6 story apartments	253 units	$ 379,500.	$ 4,933,500.
High-rise apartments	72 units	$ 120,000.	$ 899,000.
Town Houses/Sale	150 units	$ 600,000.	$ 4,365,000.
Special Efficiencies	50 units	-	$ 375,000.
Rehabilitation Waterfront	84 units	$ 160,000.	$ 1,476,000.
Rehabilitation, Market Area	181 units	$ 450,000.	$ 2,600,000.
Sub Total:	790 units		
Housing (High Rents)			
High Rent apartments	450 units	$ 900,000.	$ 6,600,000.
Old Age apartments	150 units	$ 262,000.	$ 1,872,000.
Sub Total:	600 units		
Housing Total:	1,989 units		
Yacht Club		$ 120,000.	$ 468,000.
Motor Hotel	350 rooms	$ 700,000.	$ 4,725,000.
Marine Motel	100 rooms	$ 160,000.	$ 912,000.
Boat Terminal	17,050 S.F.	$ 174,240.	$ 255,000.
Office Space	300,000 S.F. NET	$ 700,000.	$ 8,000,000.
Restaurant	6,325 S.F.	$ 87,120.	$ 100,000.
Marina	200 slips		
Restaurant	8,000 S.F.	$ 87,120.	$ 160,000.
Marine Sales	50,000 S.F.	$ 300,000.	$ 900,000.
Retail & M.T.A. Station	20,000 S.F.	$ 300,000.	$ 300,000.
Retail & Parking	220,000 S.F.	$ 300,000.	$ 2,200,000.
Quincy Market Office	50,000 S.F.	$ 250,000.	$ 700,000.
Total:		$6,601,980.	$50,378,500.

* Rehabilitation cost plus original value of building equal construction cost.

TABLES

Table 1
POPULATION GROWTH IN
SELECTED STANDARD METROPOLITAN AREAS
1950-1960

	1960	1950	% Change
Boston	2,589,841	2,410,572	7.4
Providence	816,148	760,202	7.4
Hartford	525,162	406,534	29.2
Worcester	323,306	303,037	6.7
Philadelphia	4,342,897	3,671,048	18.3
Detroit	3,762,360	3,016,197	24.7
Buffalo	1,306,957	1,089,230	20.0
Cleveland	1,796,592	1,465,511	22.6
Pittsburgh	2,405,435	2,213,236	8.7
All S.M.S.A's	111,590,163	89,083,989	25.3

SOURCE: U.S. Department of Commerce, Bureau of the Census, Census of Population, 1950 & 1960.

Table 2

RATE OF POPULATION GROWTH ABOVE OR BELOW NATIONAL AVERAGE GROWTH IN STANDARD METROPOLITAN AREAS

	Boston %	Providence %	Worcester %	Hartford %	Buffalo %	Cleveland %	Pittsburg %
1900-1910	-36	-16	-53	-29	-34	28	25
1910-1920	-32	-47	-13	52	-14	90	-21
1920-1930	-36	-39	-53	15	-17	9	-46
1930-1940	-82	-73	-93	- 9	-44	-79	-68
1940-1950	-63	-63	-41	-11	-43	-34	-74
1950-1960	-71	-71	-74	15	-21	-11	-66

SOURCE: Roy Wenzlick Research Corporation

Table 3

POPULATION DENSITY IN SELECTED STANDARD METROPOLITAN AREAS IN THOUSANDS PER SQUARE MILE

	1950	1960	Per Cent Change
Boston	2,488	2,672	7.4
Providence	1,199	1,287	7.4
Hartford	796	1,028	29.2
Worcester	708	755	6.7
Philadelphia	1,199	1,287	7.4
Detroit	1,535	1,915	24.7
Buffalo	686	824	20.0
Cleveland	2,130	2,611	22.6
Pittsburg	725	788	8.7

SOURCE: U. S. Department of Commerce, Bureau of the Census Census of Population 1950 and 1960.

Table 4
POPULATION GROWTH IN
SELECTED CENTRAL CITIES

	1960	1950	% Change
Boston	697,197	801,444	(13.0)
Providence	206,352	248,674	(17.0)
Hartford	161,077	177,397	(9.2)
Worcester	186,587	203,486	(8.3)
Philadelphia	2,002,512	2,071,605	(3.3)
Detroit	1,654,125	1,845,568	(10.6)
Buffalo	532,759	580,132	(8.2)
Cleveland	876,050	914,808	(4.2)
Pittsburgh	597,745	676,806	(11.7)

SOURCE: U.S. Department of Commerce, Bureau of the Census, Census of Population, 1950, 1960.

Table 5

OUTWARD MOVEMENT OF POPULATION
IN BOSTON STANDARD METROPOLITAN AREA
1950 - 1960

		Population in 1960	% Change From 1950-1960
	Boston SMA	2,589,301	+ 7.4
	Boston City	697,197	- 13.0
Inner Boston	Cambridge	107,716	- 10.8
	Chelsea	33,749	- 13.3
	Brookline	54,044	- 6.2
	Somerville	94,697	- 7.5
	Saugus	20,666	20.4
	Arlington	49,953	12.6
Outer Boston	Waltham	55,413	17.4
	Newton	92,384	12.7
	Dedham	23,869	29.1
	Quincy	87,409	4.3
	Marblehead	18,521	34.6
	Danvers	21,926	39.5
	Lexington	27,691	59.7
Peripheral Towns	Framingham	44,526	58.5
	Natick	28,831	45.3
	Needham	25,793	58.1
	Randolph	18,900	89.3
	Brockton	72,813	15.8
	Braintree	31,069	34.1

SOURCE: U.S.Department of Commerce, Bureau of the Census
Census of Population 1950 & 1960.

Table 6

NON-WHITE PER CENT OF POPULATION

	Boston		Buffalo		Pittsburg		Cleveland	
	SMSA	City	SMSA	City	SMSA	City	SMSA	City
1940	1.7%	3.3%	2.5%	3.2%	5.4%	9.3%	7.0%	9.7%
1950	2.4%	5.3%	4.4%	6.5%	6.2%	12.3%	10.5%	16.3%
1960	3.4%	9.8%	6.8%	13.8%	6.8%	16.8%	14.5%	28.9%

SOURCE: Department of Commerce, Bureau of the Census
Census of Population 1940, 1950 and 1960.

Table 7

MASSACHUSETTS AGE GROUPING

	1960	1950	1940	1930	1920	1910
0 -14	28.8%	23.7%	21.8%	26.5%	28.0%	27.1%
14-24	12.7%	14.1%	17.5%	16.7%	16.3%	18.5%
25-44	25.9%	29.7%	29.8%	30.1%	31.3%	32.5%
45-64	21.5%	22.6%	22.3%	20.0%	18.8%	16.7%
65+	11.2%	10.0%	8.5%	6.6%	5.5%	5.3%

SOURCE: Department of Commerce, Bureau of the Census
Census of Population-1960.

Table 8

BOSTON AGE GROUPING
(000)

	Boston			Remainder of Urbanized Area		
	1960	1950	% Change	1960	1950	% Change
0 -14	172	178	(3.4)	494	335	47.2
14-24	106	123	(13.9)	217	205	5.8
25-44	173	240	(27.9)	443	422	5.1
45-64	160	182	(12.0)	379	329	15.1
65+	86	78	10.6	183	141	30.2
	697	801	13.0	1716	1432	19.8

SOURCE: Ibid.

TABLE 8-A

BOSTON POPULATION CHANGES BY AGE BRACKETS

	1960 Actual	1960 Potential[1]	Net Variation[2]	% Variation
10-14	50,780	71,038	(20,258)	(28.5)
15-19	51,917	57,822	(5,905)	(10.2)
20-24	54,480	48,876	5,604	11.5
25-29	45,859	54,256	(8,397)	(15.5)
30-34	43,032	69,288	(26,256)	(38.0)
35-39	42,707	67,600	(24,893)	(36.8)
40-44	41,482	60,119	(18,637)	(31.0)
45-49	42,286	58,065	(15,779)	(27.2)
50-54	41,487	54,349	(12,862)	(23.7)
55-59	39,998	50,602	(10,604)	(20.9)
60-64	36,798	49,912	(13,114)	(26.3)

1. Based on Advancing 1950 Groups by 10 Years.

2. Due to net migration and deaths.

SOURCE: Ibid.

Table 9
PERSONS PER HOUSEHOLD
(BOSTON - 1950 & 1960)

Persons	NUMBER OF HOUSEHOLDS 1960	1950	Change	% Change
1	53,805	26,304	27,501	105%
2	60,249	56,425	3,824	7%
3	38,981	47,091	(8,110)	(17%)
4	30,168	39,843	(9,675)	(24%)
5	19,940	23,864	(3,924)	(16%)
6+	21,544	24,576	(3,032)	(12%)
Total:	224,687	218,103	6,584	3%

SOURCE: Ibid.

Table 10
EFFECTIVE BUYING INCOME
(BOSTON & COMPARABLE S.M.S.A. CENTRAL CITIES)

	1961 Income Per Capita	1961 Income Per Household
Boston	$2,164.	$6,723.
Providence	$2,119.	$6,471.
Hartford	$2,279.	$6,773.
Worcester	$2,170.	$7,140.
Philadelphia	$2,038.	$6,626.
Detroit	$2,030	$6,586.
Buffalo	$2,069.	$6,516.
Cleveland	$1,906.	$6,188.

SOURCE: Sales Management's Survey of Buying Power, June 10, 1962.

Table 10-A
BOSTON FAMILY INCOME DISTRIBUTION
(1949-1959)

Family Income	NUMBER OF FAMILIES 1959	1949	Change	Annual Change
$ 0-$2,000	15,130	37,425	(22,295)	(2,230)
$ 2,000-$3,999	28,485	79,800	(51,315)	(5,131)
$ 4,000-$5,999	44,637	39,125	5,512	551
$ 6,000-$6,999	19,053	8,270	10,783	1,078
$ 7,000-$9,999	34,596	9,590	25,006	2,501
$10,000+	22,314	4,340	17,974	1,798
Families:	164,215	178,550	(14,335)	(1,433)

SOURCE: Ibid

Table 11

EMPLOYMENT BY MAJOR CLASSES
BOSTON METROPOLITAN AREA

	1947	1960	% Change	% Employed In Each Class In 1960
Agriculture and Mining	4,091	3,740	- 8.6	.5%
Construction	40,836	48,761	+19.4	5.5%
Manufacturing	281,944	302,387	+ 7.3	36.2%
Wholesale	68,553	246,061	+ 8.5	29.5%
Retail	158,292			
Finance Insurance and Real Estate	55,025	71,180	+29.4	8.5%
Business and Personal Services	74,891	101,491	+35.9	12.1%
Utilities	56,366	61,906	+ 9.8	7.4%
Not Otherwise Classified	552	-	-	-
	740,550	835,526	12.8%	100.0%

Table 12

EMPLOYMENT BY MAJOR CLASSES
BOSTON CITY

	1947	1959	% Change	% Employment In Each Class In 1959
Agriculture and Mining	2,287	1,408	-38.4	.4%
Construction	20,108	18,406	- 8.5	4.9%
Manufacturing	111,333	88,768	-20.3	23.4%
Wholesale	51,529	126,149	-12.0	33.2%
Retail	91,877			
Finance Insurance and Real Estate	44,842	52,519	+17.1	13.8%
Business and Personal Services	46,948	52,758	+12.4	13.9%
Transportation Communication and Utilities	35,377	39,279	+11.1	10.4%
Not Otherwise Classified	385	-	-	-
	404,686	379,287	(6.35)	100.0%

TABLE 13

HOUSING BY TENURE
1950 - 1960

BOSTON STANDARD METROPOLITAN AREA

	1950	1960	Change	% Change
Owner Occupied	287,861	402,745	114,884	40%
Renter Occupied	358,295	367,723	9,428	3%
For Sale or Rent	6,938	19,391	12,453	180%
Others*	14,318	24,231	9,913	69%
TOTAL:	667,412	814,090	146,678	22%

BOSTON CITY

	1950	1960	Change	% Change
Owner Occupied	54,266	61,291	7,025	13%
Renter Occupied	163,837	163,396	(441)	-
For Sale or Rent	1,922	9,288	7,366	383%
Others*	2,054	4,827	2,773	135%
TOTAL:	222,079	238,802	16,723	7.5%

* Dilapidated or not on the Active Market for a Variety of Reasons.

TABLE 14

BOSTON CITY

DWELLING UNITS FOR WHICH BUILDING PERMITS WERE ISSUED BETWEEN 1952 AND 1961

	In Multi-Unit Buildings	In One and Two Unit Buildings	Total Units
1952	1,884 (public)	434	2,318
1953	131	391	522
1954	23	618	641
1955	73	732	805
1956	44	520	564
1957	20	370	390
1958	156	434	590
1959	176	421	597
1960	1,060	408	1,468
1961	1,183	375	1,558
TOTAL:	4,750	4,703	9,453

Table 15

DWELLING UNITS FOR WHICH BUILDING PERMITS WERE ISSUED IN BOSTON AREA BETWEEN 1952 and 1961

		In Multi-Unit Buildings	Sub-Total	In 1 & 2 Unit Buildings	Sub-Total	Total Units	Sub-Total
	Boston City	4,750	4,750	4,701	4,701	9,451	9,451
	Cambridge	639		104		743	
Close-In	Chelsea	152		84		236	
Districts	Brookline	1,165		454		1,619	
	Somerville	268		32		300	
	Watertown	351	2,575	671	1,345	1,022	3,920
	Saugus	9		1,386		1,395	
	Stoneham	210		1,128		1,338	
Inner	Wakefield	274		1,188		1,462	
Ring	Woburn	1,374		2,803		4,177	
Suburbs	Arlington	500		1,942		2,442	
	Waltham	975		2,256		3,231	
	Newton	149		2,572		2,721	
	Dedham	45		1,721		1,766	
	Quincy	425	3,961	1,387	16,383	1,812	20,344
	Wilmington	40		1,397		1,437	
	Bedford	44		1,380		1,424	
Outer	New Bedford	275		1,789		2,064	
Ring	Framingham	333		5,774		6,107	
Suburbs	Natick	142		1,539		1,681	
	Wellesley	65		1,431		1,496	
	Needham	101		1,789		1,890	
	Weymouth	213	1,213	2,600	17,699	2,813	18,912

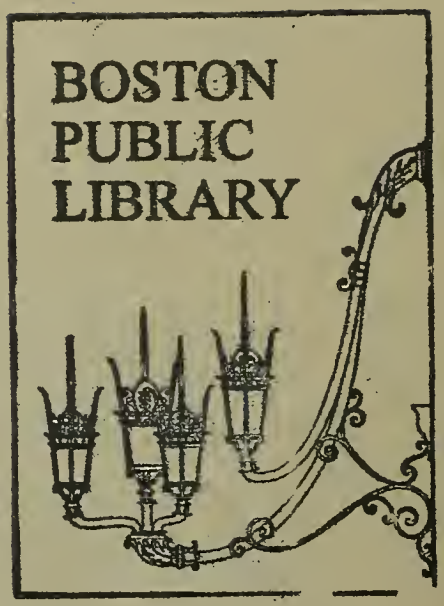
Table 16
BOSTON AREA
TOTAL DWELLING UNITS ADDED TO INVENTORY
INCLUDING ALTERATIONS AND CONVERSIONS
1952 - 1961

		NEW DWELLING UNITS				Units Of All Types Added By Alteration and Conversion	Effective Units Added To Inventory
		Total Units Built	In Private 1 & 2 Unit Dwellings	In Private Multi-Units	In Public Multi-Units		
Close-In Districts	Boston City	9,451	4,701	2,366	2,384	3,688	13,139
	Cambridge	743	104	364	275	603	1,346
	Chelsea	236	84	-	152	-	236
	Brookline	1,619	454	1,109	56	1,266	2,885
	Somerville	300	32	10	258	87	387
	Watertown	1,022	671	311	40	-	1,022
Inner Ring Suburbs	Saugus	1,395	1,386	9	-	57	1,452
	Stoneham	1,338	1,128	210	-	-	1,338
	Wakefield	1,462	1,188	274	-	-	1,462
	Woburn	4,177	2,803	1,326	48	-	4,177
	Arlington	2,442	1,942	444	56	-	2,442
	Waltham	3,231	2,256	891	84	99	3,330
	Newton	2,721	2,572	149	-	-	2,721
	Dedham	1,766	1,721	20	25	-	1,766
	Quincy	1,812	1,387	377	48	233	2,045
Outer Ring Suburbs	Wilmington	1,437	1,397	-	40	-	1,437
	Bedford	1,424	1,380	44	-	-	1,424
	N. Bedford	2,064	1,789	-	275	154	2,218
	Framingham	6,107	5,774	143	190	25	6,132
	Natick	1,681	1,539	94	48	-	1,681
	Wellesley	1,496	1,431	29	36	-	1,496
	Needham	1,890	1,789	69	32	-	1,890
	Weymouth	2,813	2,600	153	60	75	2,888

TABLE 17
HOUSING PERMITS BY S.M.S.A.
AND CENTRAL CITY

	1954-1957 AVERAGE			1958-1961 AVERAGE		
	SMSA UNITS	CITY UNITS	% OF TOTAL	SMSA UNITS	CITY UNITS	% OF TOTAL
Boston	9,855	611	6.2%	11,166	877	7.9%
Baltimore	12,852	2,598	20.2%	9,741	2,575	26.4%
Cleveland	13,904	1,800	12.9%	9,560	1,316	13.8%
Detroit	33,804	3,393	10.0%	19,836	1,631	8.2%
Pittsburg	9,048	1,459	16.1%	7,243	917	12.7%
St.Louis	9,765	1,178	12.1%	9,936	1,612	16.2%
TOTAL:	89,228	11,039	12.4%	67,482	8,928	13.2%

SOURCE: Roy Wenzlick Research Corporation.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